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AMERICAN ARTISAN and Hardware Record

Vol. 80. No. 25.

620 SOUTH MICHIGAN AVENUE, CHICAGO, DECEMBER 18, 1920.

\$2.00 Per Year.



Again we extend to our friends, the
Hardware Dealers and Metal Workers

A

Merry Christmas *and* Happy New Year

And we are glad to announce
that our Milwaukee factory has
been greatly enlarged and our big
Kansas City factory completed,
greatly increasing our facilities for
serving the dealers in the middle
west.

The erection of a large rolling
mill in Milwaukee will also aid us
in making prompt shipments of
sheets or manufactured products.
This mill will be in operation on,
or about, the first of the year.

Milwaukee Corrugating Co.

LOUIS KUEHN, Pres. and Treas.
A. J. LUEDKE, Sec'y and Asst. Treas.

Milwaukee

Kansas City

Minneapolis



QUICK MEAL

Blue, Black or White
Porcelain Enameled
Coal Ranges

are the most up-to-date
ranges made.

They will last a lifetime.

Place your orders now.

Quick Meal Stove Co.

Division of American Stove Co.

825 Chouteau Avenue

St. Louis, Mo.

FRONT RANK

TRADE NAME

REGISTERED

The Steel Furnace that is positively *gas-tight*, because it's *made right*.

Made of tested metal, cold-riveted together. No direct draft to warp and buckle. Stays in order.

If you're not handling the **FRONT RANK** you, your customers and we are all losing money. Write for illustrated literature and prices.

FRONT RANK

Steel Furnace

is fool-proof. Gets more heat value out of the fuel used; because its radiating surface is greater, and more of the heat generated in burning the coal is extracted before the smoke and gases are passed on up the flue.

Haynes-Langenberg Mfg. Co.

4058 Forest Park Blvd.

St. Louis, Mo.



MADE MARK REGISTERED.

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests

AMERICAN ARTISAN and Hardware Record

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AND
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CHICAGO, DECEMBER 18, 1920.

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It is quite refreshing to note that there are some business men who at this particular time are not carried away with the idea that the bottom is going to drop out of all prices and that before we get back to "normalcy," all classes of merchandise must be reduced to the values that were deemed proper in 1914.

A Bit of Common Sense

Most of the articles classed as hardware, in a broad sense, were not advanced in nearly as high a degree as were clothing, shoes, sugar and many other lines. The natural result is that price reductions in hardware must be on a much smaller scale, and further—such reductions as may take place will be gradual instead of in one or two big leaps.

This idea is very clearly brought out in a letter sent out by Nelson A. Gladding, vice-president and general manager of E. C. Atkins & Company, the well known saw manufacturers, from which several quotations are taken, having reference to a resolution recently passed by the Board of Directors of the Mississippi Valley Association of which the following is a part:

"Be it resolved, that it is the sense of the Board of Directors of the Mississippi Valley Association that the time has come to cease destructive and harmful propaganda, and for the adoption by the country as a whole, of a constructive program of thought and action; and, to this end calls upon all organizations and the public press of the Mississippi Valley, and invites the public press of the country at large, to join the Mississippi Valley Association in formulating a program designed to show the soundness of national affairs, and the wisdom of every attempt to re-establish a condition of mental and financial confidence."

The letter goes on as follows:

"We note especially the last line of the

second paragraph, viz., 're-establish a condition of mental and financial confidence.'

"'Mental' is well put in because we sincerely believe there is more need of a re-establishment of the mental confidence than anything else.

"It is coming back all right, and by the first of the new year most of us will wonder why we have ever been scared.

"There is not going to be so much decline in prices as has been predicted, and on some articles none at all, especially those where there was not enough increase.

"In any event, practically all manufacturers will guarantee prices up to the date of shipment and they are not in the habit of making declines in the midst of a season.

"In our line the raw materials have not declined and labor is higher today than it was a year ago, and the increased prices covering our line for the past five years did not average over 100 per cent; whereas many commodities, labor, etc., were increased several times that.

"In conclusion, let us say we believe that the coming year is going to be one of the most prosperous and best in the history of our country and there is no reason, whatever, for fear or of holding back the purchase of necessary stock of anything that you handle."

This is good advice. Yea more, it is the only sort of advice that will help to bring business back to normal conditions. A "watchful waiting" policy will only make for a continuance of the present very unsatisfactory situation. A refusal to push for business now will make for poor business later. A refusal to place orders now will cause loss of sales which can never be recovered.

Get on the job. Clear your minds of the cobwebs of distrust in yourself, and resolve

that you will do your share to push business back on its feet again—right now!

◆ ◆ ◆ ◆ ◆

Some years ago a man who has made a special study of retail store accounting was addressing a gathering of **What Is Your** merchants at Sioux City, Iowa, **Expense?** and during the conference which followed the address, one of the retailers made the statement that the rate of expense indicated by the accountant as the lowest safety point was altogether too high—that he, the retailer, did business on less than ten per cent of his sales, and that it was quite possible for many others, situated like him, to keep their expenses at the same point, or at any rate very near ten per cent.

The retailer was wrong, of course. He owned the building, but charged nothing for the investment nor for depreciation. His wife acted as bookkeeper but drew no salary. A son and a daughter sold goods in the store, but received no salary. When they wanted any money, they got it out of the drawer, just leaving a slip with the amount taken, to show where it had gone. All of these facts were brought out in a subsequent interview with the accountant, and when everything had been put down that ought to be figured as expense, it was found that it actually cost him eighteen per cent to do business.

This retailer was making money, but not nearly as much as he thought he did, nor as much as he would have made if he had kept his accounts in proper shape, for he marked some lines at too low a figure because he imagined that it cost him only ten per cent to do business.

Especially at this time, it is necessary for the retail hardware dealer to have a properly conducted accounting system in operation for his store.

There are certain items in his stock on which he must take a loss, and this ought to show in his book entries. There are certain lines that ought to show greater profits, and he can find out why they fail to do so only if he has a proper accounting system. There are certain departments which if proper accounts are kept will show too large expense in proportion to the sales. Only by "keeping tab" can he know where the fault lies and take proper remedial measures.

But there is too much red tape and too much expense if I have to keep books that way, you say. Not at all. Thousands of retail hardware dealers, whose business is no larger or no smaller than yours—doing business under exactly the same conditions and with the same handicaps as you—have found it not only quite practicable but very profitable to install and maintain an accounting system that really shows what they are doing.

The only reason why you haven't such a system is that hitherto you haven't had gumption enough to change from the old, slipshod, laçadaisical ways that you have followed for so long.

Every member of any of the various state organizations of the National Retail Hardware Association can obtain the necessary information and the proper blanks for a real accounting system from his state secretary, simply by asking for it.

Are you going to do it—today?

◆ ◆ ◆ ◆ ◆

When you buy space in which to advertise, bear in mind that it is not merely a dumping ground for words. As a **Don't Crowd** merchant, you are essentially **Your Space** a teacher. In order to sell goods, you must teach your customers the merits of the commodities. Advertisements are lessons about your store, your stock, and your service.

Every teacher is himself a pupil. He needs to acquire knowledge so that he may impart it. It was that shrewd old Roman poet, Horace, who said: "Whatever you teach, be brief, for minds grasp with readiness what is said tersely, and retain it firmly; and all that is unnecessary overflows from the charged mind."

◆ ◆ ◆ ◆ ◆

The next time you feel inclined to envy some man who appears to be lucky, make some inquiries into the way he does business. In ninety-nine cases out of one hundred, you will discover that it is not merely luck. His good fortune is the result of careful planning, enthusiasm, courtesy toward his customers, and careful attention to details. You can be just as lucky as he is by using the same method. In the long run, good fortune comes to him who earns it.

**Good Luck
Is for You
to Obtain**

Random Notes and Sketches

By Sidney Arnold

While on a shopping trip to Chicago, F. R. Simpson of the American Wood Register Company, Plymouth, Indiana, found time to pay me a pleasant visit this week.

* * *

"What a cheerful woman Mrs. Smiley is!"

"Isn't she? Why, do you know, that woman can have a good time thinking what a good time she would have if she were having it."

* * *

While "in the Service," at the Jeffersonville Quartermaster Depot, I had the good fortune of meeting a man who performed his very important duties in a very excellent manner, but the most interesting point about him was that nobody seemed to realize that there was anything difficult about the work he did.

He never found it necessary to go to "the Colonel" for assistance.

If there happened to be a special need for twenty cars of extra length, he didn't fret and fume about the lack of cooperation on the part of the Railroad Administration, but simply called Mr. So-and-So, or Mr. This-and-That on the telephone and said:

"Bill, I've got to have twenty forty-foot cars on the 'Slim Six' track by tomorrow morning, what can you do for me?"

By next morning, the twenty cars were there.

Later on, when he was transferred from the Transportation Section to the Warehousing Branch, I had the opportunity to watch him very closely, as he happened to be placed under my supervision, and I noticed how easy it seemed for him to get great quantities of work done with men who, for some reason or other, didn't "come up to scratch" when taking orders from somebody else.

He had a way of getting the best out of the men under him, pleasant in manners, though bluff of speech at times, a kindly smile on his lips, a friendly gleam in his eyes, a big, healthy body and a keen insight into human nature.

"The Lieutenant," as everybody calls him, even after he received his discharge from the Army, was retained in a civilian capacity as "Storage Supervisor," and is the only one of the three men at the Depot who really fills his job.

In fact, he knows considerably more about warehousing and the handling of men than the officer who has charge of the Warehousing Branch.

There ought to be a good place for this man in some big organization. He would be a very profitable investment.

* * *

My friend Frank B. Higgins, First Vice-president National Association Sheet Metal Contractors, St. Louis, Missouri, sent me this amusing story:

An official investigator was inquiring into health conditions in a rural district down south. In his search for facts he interviewed a negro preacher.

"Parson," he inquired, "do you have many cases of pellagra among your people?"

"Mistah, my flock is probably de most moral passel of colored folks in dis whole state," stated the clergyman. "Dey ain't been nary one of 'em arrested for pellagra in goin' on two years."

* * *

The suburban night was being made hideous by the howling of a dog whose soul was lonely, and the strolling police officer paused to speak to the citizen who, standing at his gate, was evidently listening to the canine wails.

"Awful racket" the officer observed.

"Fierce!" the citizen agreed.

"Want to make a complaint?" the officer suggested zealously.

"Why—er—not until I am sure," the citizen responded.

"Sure of what?"

"Why, whether that is my dog or Brown's. If it is my dog—oh, well, we have to put up with a few little annoyances in this life, you know but if it is Brown's, why, by George, I don't propose to have my life made miserable by a nuisance like that!"

* * *

Private Napoleon Booker Washington Jampson had obtained leave of absence to visit his buddy, who had been wounded and was in a near-by field hospital. He was stopped at the entrance by an army nurse, who asked him what he wanted.

"Has you got a dark complected man named Johnson what's been shot in dis hospital?" he inquired.

The nurse replied that there was such a person there, adding, "But he's convalescing now."

"Ah beg yo' pardon?" said Nap perplexedly, scratching his wool.

"He's convalescing now," she repeated.

"Well," said Napoleon, "if yo' don't mind, I'll set right here and wait till he gets through."

* * *

A doctor who was superintendent of the Sunday school in a small village asked one of the boys this question:

"Willie, will you tell me what we must do in order to get to heaven?"

Said Willie: "We must die."

"Very true," replied the doctor, "but tell me what we must do before we die?"

"We must get sick," said Willie, "and send for you."

* * *

"They tell me," said the city visitor, "that even in this isolated community the bare necessities of life have risen tremendously in price."

"Ay, mon," said Scottie Ayrshire gloomily, "an' no worth drinkin' when you get it."

* * *

Frankly, I like dogs. I am not concerned with their breed so much as with their loyalty. A dog remains faithful to you in all circumstances of wealth or poverty.

Men and Dogs.

A friend may smile and bid you hail,
Yet wish you with the devil;
But when a good dog wags his tail
You know he's on the level.

Up-to-the-Minute News Siftings

*Items of Interest to Dealers Gleaned from Many Fields.
National and Local Business Plans, Problems, and Practices.*

PRICE STABILIZING IS EXPECTED SOON.

James Brown of Brown Bros. & Company expects that the stabilization of prices will begin within sixty days, according to an interview published recently in "Forbes Magazine."

The recovery of business, he said, was likely to occur within the next two months, and explained that orders would begin to be placed with manufacturers and merchants and that there would be an end of the present stagnation.

He added: "I do not mean that I expect as active business as we had at the beginning of this year or during last year."

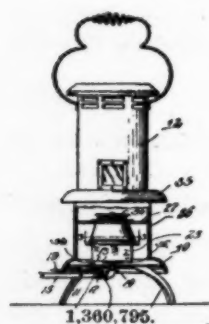
Discussing labor conditions, Mr. Brown said: "There will still be more men than jobs. Labor will be obliged to adjust itself to the changed conditions, just as business finds itself obliged to adjust itself."

"Whether wise counsels will prevail among labor leaders, permitting the adjustments to be effected smoothly, or whether disturbances will remain to be invited, remains to be seen."

"Judging from recent conferences held by the chief labor leaders, they are alive to the facts of the situation, and their soliciting the advice of a man like Mr. Hoover encourages the hope that labor will follow a rational, sensible course."

Gets United States Patent Rights for Stove.

Under number 1,360,795, William N. Regan, Jersey City, New Jersey, has obtained United States patent rights for a stove described herewith:



A burner including spaced inner and outer members, a mixing chamber partly fitted within the inner member and having air inlet openings, a fuel supply pipe leading into said chamber, a distributing chamber establishing communication between the mixing chamber and the space between said members, a perforated annulus surrounding said outer member, a casing concentrically disposed in spaced relation to said annulus and providing an air inlet at the upper end thereof, a baffle disposed above the said spaced member, and a perforated annular wall depending from the baffle and terminating in a plane beneath the upper edge of said members.

Cole Manufacturing Company Suffers Fire Loss.

The plating and polishing departments of the Cole Manufacturing Company, 3218 South Western Ave-

nue, Chicago, makers of Cole's Hot Blast stoves and warm air heaters, were badly damaged by a fire Wednesday, December 15th.

It is stated, however, by officials of the Company that the fire will in no way interfere with the filling of orders all of which will be executed with usual promptness.

Do Your Share to Revive General Confidence.

The best business minds are striving to impress upon the business world, in fact, upon the entire nation, the value of confidence as a weapon against the spirit of gloom, known as pessimism, while we are in the present state of trade depression.

When brainy men, men who know and understand the fundamentals, who have the gift of being able to look around corners and of peering into the future, tell us that confidence is essential to speedy business revival, it is incumbent upon us to hearken to them. It must be apparent that such men's advice is the best to take.

The pratings of the pessimist, the vaporings of the calamity howler, make poor assets. What the courageous man has to offer stiffens the spine.

The time is here when everybody should contribute his all to the business welfare. The Governors who met in Harrisburg recently urged that the greatest leniency that could be extended by financial institutions to their debtors be extended in a spirit prompted by a desire to go the limit in restoring trade confidence.

It must not be overlooked that even in trade, the spiritual elements control, as in all other spheres of life. That we forget the existence of these forces does not remove them from their sphere.

How vital the spiritual forces are to trade is seen in the lightning-like response the stock market makes to the slightest change in the business "atmosphere."

Since the susceptibility of trade to intangible forces is a fact, the result must be clear, when as individuals, within or without the field of trade, we contribute our mental assets, coined by the processes which give one an abiding faith in the future of our country. Only such thorough confidence can dispel the business gloom we are under.

To display an attitude eloquent of this confidence is the only way to revive and increase the spirit of optimism. Before such confidence the opposing spiritual forces, which unhappily have gripped many business men, must break down.

He is a poor comforter in the sick room who has nothing to talk of except his own woes. The physician invariably tells the household that sunshine and cheer, meaning a light heart and smiles, are as essential as his medicines to the patient.

The Week's Hardware Record

*What Retailers, Jobbers, and Manufacturers Are Doing.
Latest Selling Methods. Experiences of Successful Men.*

ADVISES RETAILERS TO CUT PRICES OF GOODS.

The business situation just now is under the control of the retail dealer to an extent which few realize, says E. F. Sweet, Assistant Secretary Department of Commerce. When prices are steadily advancing the retailer is on "Easy Street." He marks up his prices and wears a perpetual smile.

It is when prices are falling and especially when they are falling unsteadily, that his business ability is put to the test. It is then too that his citizenship is put to the test because business and good citizenship are one.

If the shelves are loaded with goods which could be replaced at 20 per cent or 30 per cent less than the retailer paid for them, what is he going to do about it?

Losses are bad medicine, and like bad medicine they are hard to take.

Our business situation today presents the strange anomaly of prices to original producers fallen to a point which many of them consider below the cost of production and in many lines little or no reduction to the ultimate consumer.

This can not continue indefinitely. The sooner it ends the better for all concerned.

During the period of soaring prices the retailer has been accused of profiteering and the resentment of the consumer has been steadily increasing. Now the retailer is making for himself a new enemy.

The original producer and the jobber were none too well pleased when they compared the prices they were receiving with the prices charged by the retailer, but now they have more substantial cause for resentment.

In many lines their business is blocked by the persistent reluctance of the retailer to mark down his wares, admit his present loss and speed up the lagging wheels of industry. The extraordinary profits of the past few years ought to afford him ample consolation.

The consumer is no fool; he is becoming wary. He fully understands the situation and is no longer buying recklessly regardless of price.

A friend of mine recently bought half a dozen shirts for \$2.50 apiece at the third store he visited. The price at the first two for shirts of exactly the same quality was \$4.

If he had not been able to find what he wanted at what he considered a fair price he would have waited or not bought at all.

Exchange rates are curtailing sales abroad and high prices are curtailing sales at home.

This means overproduction and unemployment and fewer customers for the retail dealer.

At fair prices there is no reason why seasonable goods such as ready made clothing, furs, overshoes, etc., should not find a ready sale, but the buying season is short and the retailer who is going to get caught with a lot of unsalable goods on hand and obligations at the bank unpaid is the one who ignores the fact that the quick loss and the speedy readjustment to changed conditions are his best assurance against disaster.

Many Reformers Have Narrow Ideas of Liberty.

Those who are advocating the revival of Puritanism by insisting on the carrying out of the "blue laws" are finding that not even their most logical supporters, the churches, are at one on this question. How could it be otherwise?

Spirituality, or spiritual-mindedness, is a progressive state. To suggest that we must go back to the harsh observance of the letter of the law is a contradiction, indeed, an absurdity.

The same spirit which prompts men to seek to force iron rules as a life guide is the spirit which the Nazarene denounced most bitterly.

In every instance where His anger rose to such denunciatory heights it will be found that it had to do with this spirit of intolerance, and strange as it may seem, in nearly every instance

this spirit of intolerance was born of hypocrisy.

Considering this subject from the standpoint also of civic relations, one is constrained to marvel at the thoughtlessness which would impose a rule so rigid as to prescribe the limits of one's liberty.

Even the question of the interpretation of the Sabbath, that is, the inner meaning of that day, its spiritual significance and its helpfulness, always has been and always will be a personal one.

Unless it be so, it means the breaking down of a spiritual structure, or at least the enslavement of the freeman within us all.

No man has a right to set a barrier in the way of humanity's aspirations. The whole creation still groaneth.

Despite humanity's frailties, there has been wonderful progress in its climbing upward.

Our laws are defective, it is true, but they are far superior in spirit and letter to those which were made a hundred and more years ago.

Who would revive, for example, the laws which imprisoned a man for debt?

The wounded body heals more readily than the wounded reputation. Don't stab with gossip.

Your attention is directed to an exclusive feature of AMERICAN ARTISAN AND HARDWARE RECORD. It has the distinction of being the only publication which gives Western hardware and metal prices corrected weekly. You will find these prices on pages 40 to 45 inclusive.

Good Ideas for Window Display

*Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.
How to Get More Passers-By to Come into Your Store.*

USES ROCHESTER WARES TO MAKE WINDOW DISPLAY.

Selling every article of the trade-mark line of goods in stock through a single window exhibit is the most conclusive testimony of the value of window advertisements.

This is precisely what occurred in connection with the window display shown in the accompanying photograph.

It is necessary to present them to the buying public in such a way as to convey some clear idea of their virtues by suggestion, contrast, and appeal to imagination.

It is advisable to use the relationship of an appropriate setting. This is exactly what Mr. Saur has done in the window display under consideration.

He has so arranged the several articles with reference to one another and to the decorative effects of the background as to enable the observer to visualize these



Window Exhibit of Royal Rochester Wares, Planned and Arranged by E. A. Saur, 1410 Yale Place, Minneapolis, Minnesota, Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

It was planned and arranged by E. A. Saur, 1410 Yale Place, Minneapolis, Minnesota, and was awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Mr. Saur calls this window the money maker.

It was composed exclusively of Royal Rochester Wares, consisting of percolators, chafing dishes, casseroles, and similar articles.

It will readily be admitted that, if these articles were thrown together in a jumble in the center of the window, the impression produced by such disorder would be distinctly unfavorable.

Yet, so far as realities are concerned, the value of each article in such a jumble would not be changed.

The percolators, chafing dishes, casseroles, and other Royal Rochester wares would still retain their usefulness, artistic contour, and intrinsic worth.

It is evident, therefore, that the qualities of a commodity are not self-advertising.

wares and their artistic appropriateness in the home.

Excellent use was made in this exhibit of the signs and pedestals and other advertising helps furnished by the manufacturers.

This window display of Royal Rochester wares gained favor not only with the women but with their men-folk as well.

Mr. Saur reports that the sales of the goods shown in the window were growing from Hallowe'en up to Christmas eve.

Only by gripping strongly the attention of the prospective customer could such a consequence flow from this display.

It meets the exacting test of results—and the results, of course, were measured in sales.

"From delivery boy to merchant prince" will never be written of the fellow who is satisfied to let well enough alone.

Window Display Competition an Aid in Avoiding Errors.

Sometimes a window display fails to increase the sales of the articles exhibited therein.

The failure may not be due to lack of attractive arrangement of the goods on display.

Background, color scheme, spacing of commodities in relation to one another, and lighting effect may be of more than common excellence.

But the combined impression may be weakened by the omission of price tags or by the use of posters containing glaring exaggeration.

It has been proved time and time again that exaggerations detract from the selling power of an advertisement or a window display.

If you put a line of goods in your window with placards stating that these goods are the best in the world, that they have no equal anywhere, etc., you start people thinking in the wrong direction.

Quite naturally many observers will think to themselves, "This hardware man is claiming too much. He is over-stating his case."

They will begin thinking about the exaggerations rather than about the goods.

This frame of mind is not conducive to the development of buying desire.

Effects of this kind are not uncommon.

The way to avoid them is to study the principles of advertising whether by word or object—by word in circulars and newspapers, and by object in window advertisements.

In this view of the matter, the Window Display Competition now going on under the auspices of AMERICAN ARTISAN AND HARDWARE RECORD is a school of training.

By connecting the present window display competition with weekly examples of window exhibits from the past year's competition, helpful lessons are presented and guidance is given to those who take part in the present contest.

Comparison of work already done—plus the motives of prize winning and self improvement—enables hardware dealers and sales folk to get big benefits from this window display competition.

It furnishes the reason for putting forth extra effort and thought in making up gainful window advertisements.

You can get big values from it for your own betterment in the art of window display.

Make up your mind to take part in the contest.

Start today to plan a winning display.

Read the subjoined conditions governing the competition.

Award of Prizes.

The prizes will be awarded as follows:

First prize, \$50.00 in cash, for the best photograph and description received of window display of hardware of kindred lines;

Second prize, \$25.00 in cash, for the photograph and description second in merit;

Third prize, \$15.00 in cash, for the photograph and description third in order of excellence;

Fourth prize, \$10.00 in cash, for the photograph and description fourth in degree of worthiness.

Conditions of Competition.

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used. The description is important and hence should be adequate. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than February 15, 1921. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

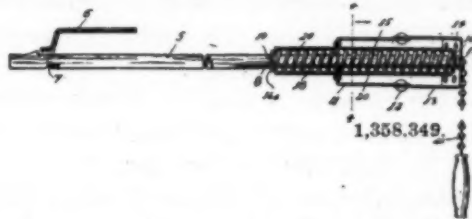
Each photograph and description must be signed by a fictitious name or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed. One of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

Assigns United States Patent Rights for Door Holder.

Under number 1,358,349, United States patent rights have been granted to Archiebald D. Waters, New Britain, Connecticut, assignor to The Stanley Works, New Britain, Connecticut, a Corporation of Connecticut, for a door holder described herewith:



A door holder including a keeper, a bar having one end adapted for locking engagement therewith when the door is in open position, a bracket having an opening loosely receiving the other end of said bar to permit the bar to be rocked into and out of locking engagement with said keeper, and resilient means between said bar and bracket for yielding limiting movement therebetween.

Incorporates to Make Tinware.

With a capital stock of \$50,000, the Krutzael, Kann Kontracting Company has been incorporated to manufacture tinware at Brooklyn, New York.

Our character is our will, for what we will we are.
—Manning.

New Trade-Mark Act Removes Many Restrictions Which Formerly Barred Some Trade-Marks from Registration

Written for AMERICAN ARTISAN AND HARDWARE RECORD by L. M. Mida of Mida's Trade-Mark Bureau, Chicago, Illinois.

(Copyright, 1920, by Mida's Trade-Mark Bureau.)

Help in holding business already won and in gaining new patronage is given manufacturers and exporters by the trade-mark law of 1920.

Before the passage of this law, there were trade-marks in use which could not be registered under the Trade-Mark Act of February 20, 1905.

That is to say, although the validity of such trade-marks was acknowledged in common law, they did not meet the requirements of the United States Patent Office.

In many instances, such trade-marks earned their popularity at first in local circles of trade. They served to identify a product in the community where it was made and sold.

When devising these emblems, manufacturers had in mind some symbol which would not be hard to remember. Moreover, they sought to compose a token which would be different enough from other trade-marks to enable people easily to recognize the goods to which it was applied.

Not much thought was spent upon whether or not the trade-mark could obtain registration in the Patent Office at Washington, D. C.

There were numerous cases in which a time came when the manufacturer achieved national distribution of his product under the local trade-mark and began to plan for business in foreign markets.

Then he discovered that his trade-mark could not get official recognition abroad because some foreign countries require certificates of United States registration before granting similar rights under their laws.

The new Trade-Mark Act of 1920 removes this obstacle from scores of trade-marks which have hitherto been valid only in common law.

A notable example is that of "Kitchen Klenzer," which was refused registration under the law of 1905 because it is descriptive in character.

The manufacturers of Kitchen Klenzer had spent a fortune in advertising that name. When they were refused registration for it under the law of 1905, they appealed to the Commissioner of Patents.

The latter could legally pursue only one course in the matter. He was obliged to confirm the Examiner of Trade-Marks in his decision that this mark was descriptive and, consequently, barred from registration under the provisions of the law.

The new Trade-Mark Act of 1920 permits registration of descriptive or geographical words and names of persons, firms, or corporations, without requiring that they be displayed in some peculiar or distinctive manner.

Certain reasonable restrictions, however, remain in effect, forbidding registration of trade-marks consisting of immoral or scandalous matter or comprising the flag or coat of arms or other insignia of the United

States or any simulation thereof, or of any state or municipality or of any foreign nation, or of any design or picture which has been or may hereafter be adopted by any fraternal society as its emblem, or of any name, distinguishing mark, character, emblem, colors, flag, or banner adopted and publicly used by any institution, organization, club, or society which was incorporated in any state in the United States prior to the date of the adoption and use by the applicant.

Thus the Trade-Mark Act of 1920 does not exclude marks which are merely geographical, as for example the word "Cleveland," which has become widely known in connection with a line of tractors.

This trade-mark represents big values in the form of good will, resulting from persistent publicity and its logical accompaniment, good craftsmanship and uniform quality.

It was refused registration under the law of 1905, but has been granted Federal recognition under the more liberal provisions of the Trade-Mark Act of 1920.

Other marks, descriptive in character, were rejected under the old law for the reason that they consisted principally of a representation of the goods upon which they were used.

A case in point is that of a picture of a pair of children's garters, employed as a trade-mark for garters.

It is true that a measure of relief was granted by the Act of 1905 in its "ten-year" proviso, which permitted the registration of a common law mark which had been in exclusive use by the applicant for ten years preceding February 20, 1905.

But it made no arrangement for the protection of common law marks which were adopted at any time after February 20, 1905, or which might be adopted at any time in the future.

In the circumstances prevailing prior to the passage of the Trade-Mark Act of 1920, any of the common law trade emblems—as, for example, "Kitchen Klenzer"—could be stolen outright by a citizen of another country and registered in that country as his exclusive property.

The American owner of the trade-mark could not prevent the theft because he could show no certificate of Federal registration to enable him to forestall such action by obtaining registration of the trade-mark in his own name in the foreign country.

Unless he took the time and trouble to devise a new trade-mark, wholly different from the stolen one, he would have to pay tribute to the citizen of another land for the right to import and sell his goods in that land under an established trade-mark which was his in the first instance.

In the hearings conducted by the House Committee on Patents, prior to the enactment of the 1920 Trade-

Mark law, Commissioner of Patents Newton drew attention to the ease with which well-known American trade-marks are pirated in some foreign countries.

He told of an experience of the Eagle Pencil Company. This company has its trade-mark, the word "Eagle" with a picture of an eagle, registered all over the world.

The company shipped some of its pencils to one of the South American countries before registering its trade-mark there.

A man who knew the good will value of the company's emblem had gone to that country and registered the trade-mark for himself.

When the Eagle Pencil Company's cargo of pencils arrived, it was confiscated. Under the trade-mark laws of various lands, no trade-mark which is an infringement of a trade-mark already registered in the country is allowed to pass the customs.

For more than twenty years, the Eagle Pencil Company was in litigation over the matter without gaining the slightest degree of redress.

Frequently, the good will betokened by a trade-mark—and often inseparable from it—is estimated in terms of millions of dollars.

Although the Trade-Mark Act of 1920 affords legal protection for the good will embodied in a trade-mark and opens the way to foreign registration thereof, it is beyond the province of the Act to stop the turning of domestic good will into ridicule or gibberish or ill will in a foreign market.

In other words, a trade emblem which is graphic and persuasive in this country may be obscure, repellent, or a laughing stock in another country.

This may come to pass as a consequence of difference of language or clash or racial custom or religious beliefs.

For example, in the tailoring industry there is a prosperous American firm bearing the name of "Bobo and Company."

It is conceivable that this firm might want to use the name "Bobo" as a trade-mark for its goods in Latin America.

No difficulty would be encountered in securing Federal registration for the name in this country after it had been used in interstate commerce for one year.

Nevertheless, it would not be advisable to register the name as a trade-mark in any of the Spanish-speaking republics, because "Bobo" in Spanish means dunce, dolt, fool, simpleton.

Furthermore, a particular trade-mark may be free from everything which would militate against its prestige in foreign markets and yet be so designed as to be denied registration in another land.

This may happen when the trade-mark is so composed that its units are not intimately blended. A citizen of the foreign country may obtain registration for himself of the several distinct parts of such a trade-mark and thus prevent the use of the composite trade-mark—except upon payment of blackmail to him.

It is apparent, therefore, that American manufacturers who wish to sell their goods in foreign markets need something more than legal protection for their trade-marks.

They require the knowledge and services of a com-

petent agency to make a study of the trade-mark with reference to its fitness for general use in export business and to find out first and foremost whether or not it sufficiently meets the requirements for ample protection in this country. The practice of relying upon common law rights is robbed of much of its former excuse now that the Patent Office has opened the door to registration of practically all "common law" marks.

Is Granted Patent Rights for Pocket Knife.

Under number 1,359,760, United States patent rights have been procured by Andrew Smith, Hamden, Connecticut, assignor to Winchester Repeating Arms Company, New Haven, Connecticut, a Corporation of Connecticut, for a pocket knife described as follows:



A single-ended pocket-knife having a handle, a plurality of blades, springs therefor, and a half-length center-liner interposed between the said blades

and springs for preventing their lateral displacement within the knife-chamber of the handle, the center-liner and springs having hook-like outer ends, and means with which the said hook-like ends of the liner and springs are engaged for holding them in place within the knife-handle.

You Can Learn Something from Everyone.

He is wise who finds a teacher in every man, an occasion to improve in every happening, for whom nothing is useless or vain.

If one whom he has trusted plays false, he lays it to the account of his own heedlessness and resolves to become more observant.

If men scorn him, he is thankful that he need not scorn himself.

If he is thrown with one who bears himself with ease and grace, or utters what can spring only from a sincere and generous mind—there is opportunity.

If he chance to find himself in the company of the rude, their vulgarity gives him a higher estimate of the worth of breeding and behavior.

The happiness and good fortune of his fellows add to his own.

Registers Saw Trade-Mark in Patent Office.

Simonds Manufacturing Company, Fitchburg, Massachusetts, has been granted United States patent



rights, under number 133,109, for the trade-mark herewith reproduced. No claim is made of the exclusive right to use the words "The

Saw" apart from the mark shown in the drawing. The particular description of goods to which it is applied is saws. The Company claims use of this trade-mark since 1906.

Making a Twist Drill Live Up to Its Reputation Is a Matter of Instructing Mechanics in Their Proper Use

Written for AMERICAN ARTISAN AND HARDWARE RECORD by H. Wills of The Standard Tool Company, Cleveland, Ohio.

When considering the almost human mechanical appliance employed in the making of standard types of Twist Drills and the precautions taken in the various operations from the laboratory test of the steel bars to the final inspection, it is a pretty safe conjecture that if the drill gives trouble some of the conditions surrounding its use are not right.

Twist Drills will stand more strain in proportion to their size than almost any other tool and a very large percentage of drill troubles could be eliminated with proper attention given to grinding the points.

The form of the drill point controls the rate of production, accuracy of the hole, frequency of necessary grinding and the very life of the drill.

If the illustrations and instructions of this article are followed religiously a uniform and satisfactory result will follow to an extent hardly appreciated by the average user of twist drills.

In order to simplify the instructions contained here-in, we recommend by all means that every user of Twist Drills be supplied with the "Standard Twist Drill Grinding

Measuring Length and Gauge Chart and Scale" Angle of Cutting Lip. illustrated herewith.

Twist Drills must be properly ground and run at a suitable speed and feed in order to do their work efficiently and with the aid of this handy tool any skilled workman can attain these best results resulting in a considerable increase in your drilling production.

This handy tool combines a gauge ground to an angle of 118 degrees and an accurate 4 inch scale graduated in 32nds and 64ths on one side and 16ths on the other.

This gauge gives the proper angle and length of lip to the drills when they are being ground.

On it also is a table of speeds and feeds for drilling steel and cast iron. Opposite each $\frac{1}{8}$ inch mark is a number showing the proper speed at which to run a drill of corresponding diameter.

Grinding.

1. Both cutting lips must be inclined at the same angle with the axis of the drill and must be of equal length.

The Point Angle of 59 degrees has been universally adopted as best suited for average conditions.

2. The Drill Point must have the proper clearance or contour of surface back of the cutting edges and this clearance must be identical on both sides.

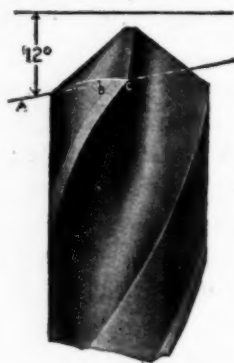


Figure 2.

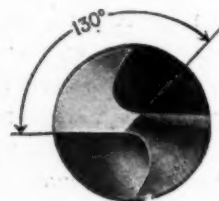


Figure 3.

Correct Clearance and Center Angles.

Approximately a 12 degree Clearance Angle (Figure 2) combined with the Center Angle of 130 degrees, which will give a constantly increasing clearance towards the center (Figure 3) has proven best for average conditions.

Incorrectly Ground Drill Points.

3. Some of the undesirable conditions resulting from drill points improperly ground are given below.

4. If both lips are not ground at the same angle with the axis (Figure 4) one lip will fail to counteract the tendency of the other to spring away from the cut.

Consequently, one lip will do more work than the other, which will result in its becoming dull more rapidly than if both lips were cutting equally, and it will be subjected to an abnormal torsional strain.

5. When the cutting lips of a drill have the same Point Angle, but are of different lengths (Figure 5) the point of the drill will be "off center" or eccentric. As a result, the hole will be over-size to an extent equal to double the amount of this eccentricity.

6. If the drill point is ground both with lips at different angles and of different lengths (Figure 6) there will be a combination of the undesirable results described in paragraphs 4 and 5.

When Insufficient Clearance at the Point or Center.

7. Figure 7 shows a side and end view of a drill with the proper angle of point (59 degrees) and the

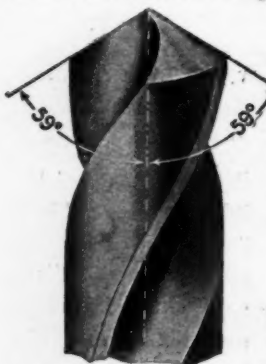


Figure 1.
Length and Angle of
Cutting Lip.

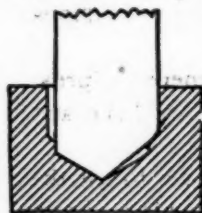


Figure 4.

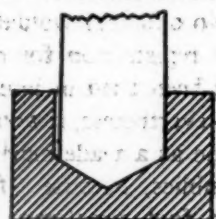


Figure 5.
When Cutting Lips
Are Different
Lengths.

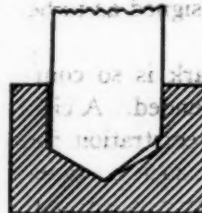


Figure 6.
Lengths and
Angles Both In-
correct.

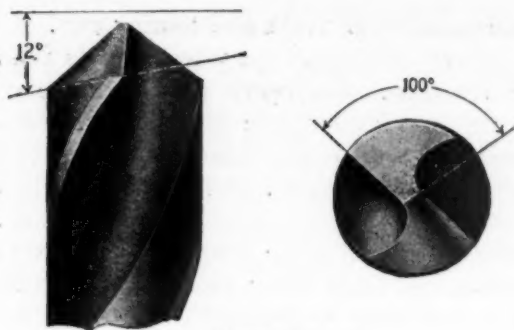


Figure 7.

proper angle of clearance at the periphery (12 degrees) but with insufficient clearance at the point or center.

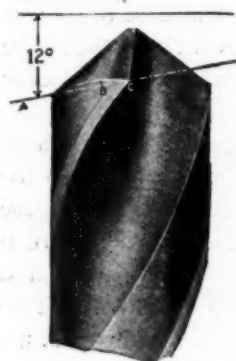


Figure 8.
Insufficient Clearance at Both Periphery and at Center

8. Figure 8 shows a drill with insufficient clearance both at the periphery and at the center. The line A-B-C is at an angle of 12 degrees, but there is no clearance immediately back of the cutting edges (B-C) and the excess of clearance at the heel (A-B) is of no benefit.



Figure 9.
Have You Experienced This?

9. Figure 9 shows what is liable to happen to a drill ground with insufficient clearance, or as described in paragraphs Nos. 4, 5, 6, 7, and 8, especially if an attempt is made to obtain maximum production.



Figure 10.
Cutting Edges Thin and Weak.

10. Figure 10 shows a drill with a clearance angle of about 12 degrees but it does not have the proper contour back of the cutting edges. This manner of grinding leaves the cutting edges thin and weak, causing them to crumble away under heavy feeds.



Figure 11.
Estimating Approximate Center Angle.

11. This gauge can also be used to approximate the Center angle. Although the included angle of the gauge is only 118 degrees, a Center Angle of 130 degrees is recommended. The use of this gauge in this manner enables a very close estimate to be made, as shown in Figure 11.

12. Most Twist Drills are made with a gradual

increase in the thickness of the web or center of the drill toward the shank. As the drill becomes shorter and the web thicker, greater force is required to drive it. To overcome this, it is good practice to thin the web by grinding away the excess thickness, reducing it to its original dimensions. This grinding must not extend too far up the flute of the drill and care must be exercised that the cutting lips are not injured, and that the same amount is ground out of each groove. Figure 12 shows a drill with the web properly thinned. In Figure 13, the grinding is excessive, leaving the web entirely too thin and liable to crumble. When this happens, a split drill is practically inevitable.

Figure 12.
Figure 13.
Correct and Incorrect Thickness of Web.

13. Paragraphs 4, 5, 6, 7, 8, and 12 show the cause of drills splitting up the center, and no manufacturer should be called upon to replace a split drill, unless a flaw is evident in the steel.

14. Twist Drills are made with a slight taper from point to shank, so that the largest diameter is always across the corners of the cutting lips. This prevents the drills from binding in the work, when they are sharp. If the outer corners are allowed to become badly worn, the drills will bind and cannot perform satisfactorily. Whenever the outer corners of the cutting lips show wear, the drills should be re-ground and every particle of worn surface removed, or the drill will continue to bind and very quickly be damaged beyond repair.

15. In grinding High Speed Drills, care should be taken not to overheat them, and when heated they should never be plunged into cold water. Doing so is likely to cause small surface cracks which reduce the efficiency of the drill and may result in serious damage to it.

Forcing the grinding on a wet grinder may also bring about the same condition.

16. If the suggestions for grinding drill points contained herein are followed and drills are run at the proper speeds and feeds, satisfactory results are practically assured.

It is, however, hardly possible to do this grinding as accurately by hand as by using a good twist drill grinding machine, of which there are several on the market, and we earnestly recommend their use.

17. Broken or damaged tangs of drills are generally the result of an imperfect fit of the drill shank in its socket, which may be caused by a "worn out socket," "dirt or chips accumulating in the socket," or "bruises on the shank of the drill." In either case the driving power of the taper is reduced or destroyed, resulting in an abnormal strain being put upon the tang.

18. A drill of either Carbon or High Speed Steel that can be filed is not necessarily too soft for service; in fact, if drills were tempered so that a good file would make no impression, they would be entirely too hard for general use. If you have any doubt regarding the temper, try the drills in actual service.

Speeds and Feeds.

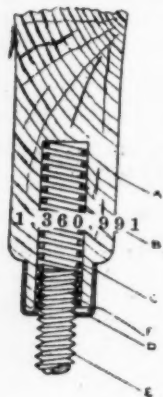
19. There are so many conditions affecting drilling operations that it is extremely difficult to establish "hard and fast" rules for speeds and feeds.

Assuming the drill is properly ground, when the corners of the cutting lips wear away rapidly it is an indication that the speed is too great. If the cutting edges roughen or break out in minute particles it indicates that the feed is too great.

A word of caution will not be amiss regarding the use of very small drills. It is seldom that these are run at more than a fraction of the speed necessary to obtain the best results, and excessive breakage is inevitable. These are delicate tools; be sure they run true and that the cutting edges are kept sharp. A fine grade emery stone is best suited for this purpose.

Assigns United States Patent Rights for Tool Handle.

Rowland C. Hill, Fitchburg, Massachusetts, assignor to Simonds Manufacturing Company, Fitchburg, Massachusetts, a Corporation of Massachusetts, has secured United States patent rights, under number 1,360,991, for a tool handle described in the following:



A tool-handle, comprising a hand-grip member with a tool socket therein, a coiled wire in the socket, the diameter of which coil is normally greater than the diameter of the socket hole, and a tool for the socket, having a screw-threaded shank the threads of which are less in pitch than the angle of the helix of the wire coil, for the purpose specified.

Did You Buy Any of These Padlocks?

At the recent group meeting of Wisconsin retail hardware dealers held at Racine, the following incident was related to A. G. Pedersen, of AMERICAN ARTISAN AND HARDWARE RECORD, who it will be recalled served three years at the General Supply Depot of the Quartermaster Corps, Jeffersonville, Indiana.

Some time ago a traveling salesman called on the hardware dealer who told the story to Mr. Pedersen and showed him a sample of a padlock on which the price looked very attractive.

The manufacturer's trade-mark indicated that it was of good quality and the dealer bought several dozen.

The reason given by the salesman for the low price was that they were bought by his wholesale house from the Surplus Property Division of the Quartermaster Corps.

When the padlocks arrived, it was found, however, that every one of them could be opened with the same key, which naturally detracted from their desirability to a great degree.

The truthfulness of this statement is corroborated by Mr. Pedersen from his own experience while in charge of an area of ninety acres on which were fifty corrugated iron sheds, many of which were used for

the storage of auto trucks and touring cars.

To prevent stealing of the valuable parts and accessories for these cars, heavy padlocks were ordered from the regular warehouse stock and the doors were fastened with these locks. Through a mere accident it was discovered, however, that any of the two keys furnished with each lock would open every one!

Evidently no one in the Purchasing Division of the Quartermaster Corps knew enough about padlocks to think it necessary to specify "different" keys when placing orders, and as a result, padlocks which were placed on tool chests for automobiles, rolling kitchens, engineer tool wagons, auto trucks, etc., might just as well been left off, for if a driver of any of these wagons or trucks happened to lose a tool, all he had to do was to use his own key on the padlock which "locked" the chest on another wagon or truck and take whatever he wanted!

Judging from the condition which existed for a long time at the Jeffersonville Depot, this is not at all to be wondered at, for the Chief Purchasing Officer there was a political office holder in the New York Fire Department who was made a captain early in the war and whose chief qualification consisted in the fact that he was an active worker for Tammany Hall; his first assistant had been a salesman for an engraving concern in Indianapolis.

These two men were assigned to the important work of "supervising" the work of making contracts and specifications for the millions of dollars' worth of hardware, as well as for other merchandise, by Colonel W. S. Wood, who was in command at the Depot for nearly a year of the actual war period—in spite of the fact that there were several officers on duty at the Depot who were particularly well qualified for such work because of their previous business experience.

Registers Trade-Mark for Manila Rope.

Whitlock Cordage Company, Jersey City, New Jersey, has procured United States Patent Office registration, under number 133,644, for the trade-mark reproduced herewith. The particular description of goods to which it is applied is manila rope. The Company claims use of this trade-mark since June 1, 1910.



Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

34157.—A commercial agent in England desires to secure the representation of firms for the sale of hardware of all kinds.

34160.—A merchant in India desires to secure an agency for the sale of ironmongery, etc. Quotations should be given.

c. i. f. Karachi port. Terms: Payment against documents by 30 days' draft payable through any exchange bank in India. References.

34146.—A commercial agent in South Africa desires to secure the representation on a commission basis of firms for the sale of general lines of merchandise. Reference.

34147.—Importing firms in India are desirous of being placed in communication with manufacturers and exporters of wire mosquito screening, particularly that which is rust proof and noncorrosive.

34148.—A member of a firm in Spain is in the United States and desires to get in touch with manufacturers of hardware, enamelware, etc. References.

34154.—A mercantile company in India desires to secure an agency and purchase motor cycles and side cars, rubber tires and tubes of good quality, and other motor-car accessories. Quotations should be given c. i. f. Karachi or Calcutta preferred, also f. o. b. American ports. Payment to be by draft at 60 days' sight through any exchange bank. References.

34169.—A mercantile firm in India desires to purchase in very large quantities bright iron wire nails, 1/6 inches, of 6 to 14-gauge; galvanized-wire netting, 6 to 20 mesh, 3 by 50 feet, in rolls. Quotations should be given c. i. f. Indian port. Payment to be 30 to 60 days' draft against documents. Reference.

Coming Conventions.

Texas Hardware and Implement Association, Adolphus Hotel, Dallas, Texas, January 18, 19, and 20, 1921. A. M. Cox, Secretary, 1808 Main street, Dallas, Texas.

Western Retail Implement, Vehicle and Hardware Association, Kansas City, January 18, 19 and 20, 1921. H. J. Hodge, Secretary, Abilene, Kansas.

Pacific Northwest Hardware and Implement Association, Seattle, Washington, January 18, 19, 20, and 21, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Missouri Retail Hardware Association, Planters Hotel, St. Louis, Missouri, January 25, 26, and 27, 1921. F. X. Becherer, secretary, 5106 North Broadway, St. Louis, Missouri.

Mountain States Hardware and Implement Association, Brown Palace Hotel, Denver, Colorado, January 25, 26, 27, 1921. W. W. McAllister, Secretary-Treasurer, Boulder, Colorado.

Indiana Retail Hardware Association, Athenaeum Hall, Indianapolis, Indiana, January 25, 26, 27 and 28, 1921. G. F. Sheely, Secretary, Argos, Indiana.

Oregon Retail Hardware and Implement Dealers' Association, Portland, Oregon, January 25, 26, 27, and 28, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Dealers' Association, Louisville, Kentucky, January 25, 26, 27 and 28, 1921. J. M. Stone, Secretary, Sturgis, Kentucky.

American Society of Heating and Ventilating Engineers, Philadelphia, Pennsylvania, January 26, 27 and 28, 1921. Casin W. Obert, Secretary, 29 West 39th Street, New York City.

West Virginia Retail Hardware Dealers' Association, Huntington, West Virginia, February 1, 2, 3, 1921. James B. Carson, Secretary-Treasurer, Dayton, Ohio.

Nebraska Retail Hardware Association, Hotel Rome, Omaha, Nebraska, February 1, 2, 3 and 4, 1921. George H. Dietz, Secretary, Lincoln, Nebraska.

Sheet Metal Contractors' Association of Indiana, February 2, 3 and 4, 1921, Indianapolis, Indiana. Ralph R. Reeder, Secretary, 314 East Sixteenth Street, Indianapolis, Indiana.

Wisconsin Retail Hardware Association, Milwaukee, Wisconsin, February 2, 3 and 4, 1921. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Oklahoma Hardware and Implement Association, Oklahoma City, February 8, 9, and 10, 1921. W. B. Porch, secretary-treasurer, Oklahoma City, Oklahoma.

The Michigan Retail Hardware Association, Grand Rapids, Michigan, February 8, 9, 10, and 11, 1921. Arthur J. Scott, Secretary, Marine City, Michigan.

North Dakota Retail Hardware Association, Fargo, North Dakota, February 8, 9, 10, and 11, 1921. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, February 8, 9, 10, 11, 1921. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February 15, 16 and 17, 1921. Leon D. Nish, Secretary, Elgin, Illinois.

California Retail Hardware and Implement Association, San Francisco, California, February 15, 16, and 17, 1921. LeRoy Smith, secretary, 112 Market street, San Francisco, California.

Minnesota Retail Hardware Association, St. Paul Auditorium, St. Paul, Minnesota, February 15, 16, 17, 18, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Ohio Hardware Association, Columbus, Ohio, February 15, 16, 17 and 18, 1921. Hotel Headquarters, Deshler Hotel. Exhibition in Memorial Hall. James B. Carson, Secretary, Dayton, Ohio.

New England Hardware Dealers' Association, Mechanics' Building, Boston, Massachusetts, February 21, 22, and 23, 1921. George A. Fiel, secretary, 10 High street, Boston, Massachusetts.

Michigan Sheet Metal Contractors' Association, Hotel Durant, Flint, Michigan, February 22, 23, and 24, 1921. F. E. Ederle, Secretary, 1121 Franklin Street, S. E., Grand Rapids, Michigan.

Iowa Retail Hardware Association, Savary Hotel, Des Moines, Iowa, February 22, 23, 24, and 25, 1921. A. R. Sale, secretary-treasurer, Mason City, Iowa.

New York State Retail Hardware Association, Rochester, New York, February 22, 23, 24, and 25, 1921. John B. Foley, Secretary, 607 City Bank Building, Syracuse, New York.

South Dakota Retail Hardware Association, Sioux Falls, South Dakota, February 22, 23, 24, 25, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

National Warm Air Heating and Ventilating Association, Cleveland, Ohio, April 19 and 20, 1921. Allen W. Williams, Secretary, Columbia Building, Columbus, Ohio.

Panhandle Hardware and Implement Association, Amarillo, Texas, May 8, 9, and 10, 1921. Troy Thompson, Secretary, Treasurer, Dalhart, Texas.

Hardware Association of the Carolinas, Charlotte, North Carolina, May 10, 11, 12, and 13, 1921. T. W. Dixon, secretary-treasurer, Charlotte, North Carolina.

Southeastern Retail Hardware and Implement Association (composed of Alabama, Florida, Georgia and Tennessee), Atlanta, Georgia, May 17, 18, 19 and 20, 1921. Walter Harlan, Secretary, 701 Grand Theater Building, Atlanta, Georgia.

Retail Hardware Doings.

Iowa.

F. G. Kuester, who has been engaged in the hardware and implement business at Lyman for the past several years, is having a closing-out sale.

Michigan.

H. C. Manke sold his interest in the hardware business of Menke and Grill to F. E. Howland. The firm will continue under the new name of Grill and Howland at Jonesville.

McIlwain and Bredon sold his hardware store at Litchfield to C. S. Wolfinger.

Elmer Brenner sold his hardware business at Montgomery to H. C. Dyer.

Minnesota.

George W. Knoff and J. M. Peterson purchased the Maire and Bell Hardware Company at Fergus Falls.

G. N. Noben bought the interest of his brother N. O. Noben in the Herman Hardware Company at Herman.

Nebraska.

A transaction was closed recently at Long Pine whereby H. A. Hotchkiss became the new owner of the Skillman Justice and Company, hardware store.

Oklahoma.

J. O. Price Hardware and Implement Company has been incorporated with a capital of \$5,000 at Checotah by J. O. Price, B. A. Price, and A. J. Martin.

South Dakota.

R. F. Donhower has been succeeded in the hardware business at Lidgerwood by S. J. Livingood.

Mr. Lynn Rosewarren has resigned his position with P. O. Beaulkey at Winner and expects to leave soon for South Bend, Indiana, where he will engage in the hardware business.

Washington.

The Buckley Hardware Company's business at Hillyard has grown and expanded to such an extent that the firm is having five hundred square feet of additional flooring space added to their balcony. Their hardware and furniture store is now the largest one in Spokane county outside the city of Spokane.

The Mattech Hardware Company will pass out of existence, but M. W. Mattech will continue in the same line of business in the same location at Hennewick. Together with Otto Hauelsen and Wilmot Gravenslund he has organized the Washington Hardware and Furniture Company.

Wisconsin.

Puestow Brothers will open a hardware store at West Bend.

The hardware firm of Kitz and Pfeil has purchased the two story brick store building at 179 Main Street at Oshkosh.

Selling Automotive Accessories

How Hardware Dealers Can Increase Their Profits by Handling Standardized Automotive Accessories. Facts and Suggestions to Aid Them in Giving Better Service.

SEES BETTER PROSPECT IN THE TIRE INDUSTRY.

As managerial head of a concern which within the brief period of a decade has forced its way from comparative obscurity to a prominent position, Seneca G. Lewis, vice president-general manager Pennsylvania Rubber Company, Jeannette, Pennsylvania, when asked to give his opinion regarding present conditions and future prospects for the tire industry, has this to say:

"During the month of July, and even as late as August, tire manufacturers occupied a position of comparative isolation as representatives of the one big industry, showing a conspicuous preponderance of finished goods as compared to current demand.

"Later developments clearly indicate that a sudden and decisive slowing up in the production of motor cars emphasized at an early date conditions in the tire business, which are now manifest in practically all lines, and probably now there will be less inclination on the part of financial authorities to single out the motor and allied industries as the vulnerable spot in present developments.

"Reports covering actual stocks held by the manufacturers themselves have been much exaggerated. The bulk of the surplus is in the hands of the trade, and being steadily reduced towards normal proportions.

"The tire business is all right. Excess enthusiasm, generated by unusual conditions, prevailing for some four years back, has earned tire manufacturers the period of introspection which is now upon us.

"Even at this moment the demand for tires for Ford cars and other sizes, specially popular, is so great as to require our plant maximum production and daily express shipment to branches, in order to keep in pace with customers' daily needs."

Obtains Patent for Radiator.

United States patent rights have been granted to Nathan Franklin, Milwaukee, Wisconsin, under number 1,355,955, for a radiator described in the following:



A radiator structure comprising a series of pairs of plates, the plates of each pair having their side edge portions engaged to define a closed passage-way between the plates, said plates of each pair being provided with series of transverse bends, the opposed portions of said bends being substantially parallel and spaced to provide fluid chambers opening in said passageways, the bends of each pair of plates being in abutting relation to the bends of adjacent pairs of plates to provide mutual connection for said series of pairs of plates and to define air cells

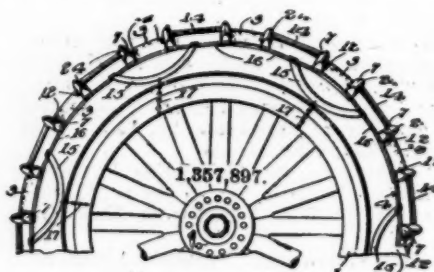
extending between said pairs of plates, said plates being provided between the said bends thereof with pairs of portions struck outwardly between the bends and extending longitudinally between the bends, the inner ends of each of said pairs of outwardly struck portions being mutually adjacent and inclined in the same direction to define an oblique baffle portion therebetween.

Gets Charter to Manufacture Automotive Accessories.

For the purpose of manufacturing automotive accessories a charter has been obtained by the Hudson Auto Lamp & Radiator Company, New York City. The incorporators are J. Defrin and M. Davis, 826 Manida Street, and others.

Obtains Patent for a Radiator.

Under number 1,356,897, United States patent rights have been obtained by George J. Wilkman, Chicago, Illinois, assignor to Ideal Sheet Metal Works, a corporation of Illinois, for a radiator described as follows:



A radiator comprising a plurality of pairs of spaced sheet metal walls between which are formed vertical water channels, said walls being corrugated to

produce like shaped and dimensioned structures of elevated and depressed formation, with the elevations of each wall in register with the depressions of the other wall, each of said walls being provided with a plurality of exterior protuberances struck from the metal thereof and adapted to abut the protuberances of an adjacent wall of another pair to thereby form vertical air passages between adjacent pairs of walls, said passages being open at the front and rear of the radiator, the elevations and depressions of the walls of one pair being respectively disposed opposite to the elevations and depressions of the walls of another pair to form horizontal air passages therebetween and in communication with said vertical air passages.

Organize Auto Radiator Company.

With a capital stock of \$50,000, the James Auto Radiator Company, 668 West Washington Street, Chicago, Illinois, has been incorporated by A. J. Shutan, K. Emmer, William Nathanson, and others.

A truly wise man never wastes his time.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.

From time to time, it is wise to publish advertisements regarding the policy of one's business.

To establish standards of service and reliability of merchandise, re-

give service values for the money expended upon them.

Frank P. Wood Hardware Company uses as its slogan, "The Quality Store."

Not Just Hardware

But the Quality kind. There are several different grades of hardware and like all other goods, the sorry hardware sells for a cheap price.

Do not be misled on the price of hardware.

We specialize on Quality Hardware.

You get your money's worth on every piece of hardware you purchase at this store.

Frank P. Wood Hardware Co.
THE QUALITY STORE

quires knowledge and perseverance.

It is not enough, however, to adopt such a policy and carry it out in the smallest detail.

Much of the effectiveness of the policy is lost if there be not enough persistent publicity for the purpose of acquainting the patrons and prospective customers with the ideals of the store.

Therefore, good judgment is shown by Frank P. Wood Hardware Company in the spirit and wording of the advertisement reprinted herewith from the *Corsicana Sun*, Corsicana, Texas.

The first line, "Not Just Hardware," is strongly suggestive of the policy of the company.

From experience, people know that there are many grades of hardware.

Some of the goods are far from satisfying.

Inferior material and poor workmanship can not be combined to

The advertisement under discussion is an amplification of the company's motto.

It enlarges upon the idea of quality and accentuates the lesson of the relationship between quality and money's worth.

Mechanically, the advertisement is thoughtfully constructed.

Emphasis is placed upon the first line and upon the name of the company at the bottom of the copy.

The remainder of the text is set forth in plain type as if it were part of the page taken from a pleasant book.

* * *

Avoid Superlatives.

Superlatives are fatal to the sincerity of advertising copy.

No commodity can said to be the best in the market, because the world is changing every minute of the day.

Improvements of material and

workmanship are going on constantly.

The thing which may have been the best this morning may be 20 per cent below the standard of the world's best this evening.

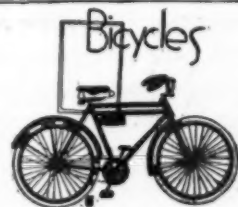
In order to make your statements plausible, use simple adjectives. Use them sparingly.

A noun is always stronger than an adjective.

* * *

The original of the advertisement herewith reproduced from the *Greenville Daily News*, Greenville, South Carolina, occupied just twice the amount of space as it takes up in this column.

The Jones Hardware Company puts not the slightest strain upon



POPE BICYCLES At Special Prices

\$55.00 Boys' Wheels @ \$47.50
\$50.00 Girls' Wheels @ \$45.00

With a further allowance for cash of five per cent. Only a few left, so act quick!

Jones Hardware Co.

208-210 So. Main St. - Phones 66-3011

the vision of the prospective customer in the reading of this copy.

The illustration is clean-cut and adequate.

Special prices are the inducement offered.

These are set forth plainly in dollars and cents, followed by a statement of further allowance of five per cent discount for cash.

Inasmuch as the Jones Hardware Company is advertising a widely known make of bicycles, it is not essential to the purpose of the advertisement to mention details as to the material and workmanship.

The advertisement is complete and persuasive.

Warm Air Heating and Ventilating

*Better Installations. How to Sell More Warm Air Heaters.
Reports of Progress in Warm Air Heater Research Work.
Ventilating Factories, Garages, Theaters, and Houses.*

VAST WEALTH IS WASTED IN SMOKE.

Billions of dollars are vanishing annually in smoke as a result of fuel waste in American homes, according to Joseph E. Pogue, industrial economist of New York, and formerly scientist in charge of the investigation of energy resources for the Smithsonian Institution.

Mr. Pogue's declaration is contained in a statement by the Committee on Information and Service of the Fuel Section of the American Society of Mechanical Engineers, organized to gather information on the energy situation and to make it available for the general public.

The committee is now conducting nationwide inquiry as to fuel conditions and holds monthly meetings in the society's headquarters, 29 West Thirty-ninth street. W. N. Polakov is chairman of the committee which, in addition to Mr. Pogue, includes: F. C. Tyron, statistician of the United States Geological Survey; E. A. Lucey, C. C. Phelps, and Floyd W. Parsons. Charles E. Lucke, professor of mechanical engineering at Columbia University, has just been added to the committee. He will serve in an advisory capacity.

Mr. Polakov says that "the work of the committee would not be confined merely to the mechanical aspects of the energy problem, but would include also the relationship of its technique to the social and economic problems involved."

"If each family in the United States were required by customs to throw away five ten-dollar bills each year and then fined a hundred dollars for the damage wrought by the indiscriminate manner in which the sum was cast to the winds, there would probably be considerable objection to such a needless and wasteful performance," said Mr. Pogue's statement issued through the committee.

"Yet such is essentially what is now being done in this country when raw coal is burned in millions of homes and factories and countless columns of dense, black smoke are allowed to escape into the atmosphere to contaminate its purity, dilute its brightness, and besmear the surroundings with soot and grime.

"The value of the benzol, tar, ammonia and gas which is thus annually turned loose into the air in the United States is conservatively estimated at one billion dollars, while the damage to property, health and comfort occasioned by this waste is at least twice that figure, though it would be difficult to place a money value on the losses suffered by society, especially in cities, on that score.

"And the smoke nuisance, far from improving, is becoming worse, as city after city is forced to turn to soft coal in the place of the relatively smokeless anthracite which is becoming increasingly difficult to obtain in sufficient quantity.

"This condition has developed as a result of the rapid growth of our country when no one had time to improve the manner in which coal is brought into service.

"It is altogether possible, however, to turn smoke from a liability to an asset; for with the upgrowth of municipal by-product fuel plants and the establishment of coal refining plants at the mine mouth, the requirements of home and factory may be met with smokeless fuel and at the same time the present smoke-forming constituents saved in the form of valuable commodities, to pave our roads, fertilize our fields and run a goodly share of our motor cars.

"Once the true significance of smoke is fully realized, a most important step will have been taken toward increasing the attractiveness of our civic life and reducing a large item of waste that now enters substantially into the high cost of living."

Air Moistener and Spreader Patented by D. Van Evera.

The well known warm air heating expert, Dewitt Van Evera, 4421 North Hermitage Avenue, Chicago, has invented and secured patent rights under number 1,293,582 for an appliance to which he has given the name of Home Air Moistener and Spreader and which is shown in the accompanying illustration:



Home Air Moistener and Spreader. pail, ten inches in diameter at the bottom and wider at the top, will answer the purpose.

Figure 2 is the part on which water pan rests. It has a socket on the lower side to receive the upper end of brass rod. Also has large perforations to admit heated air to the water pan, which moistens and spreads the air.

Figure 3 is a brass rod, threaded on lower portion which fits into a threaded hole in a boss. The rod can be turned to raise or lower water pan, to secure proper moisture in the air.

Figure 4, an extended threaded boss, is placed on top (at center) of register, and extends down through Figure 5, which is placed under the register (directly

under and opposite Figure 4.) These parts are securely bolted in place.

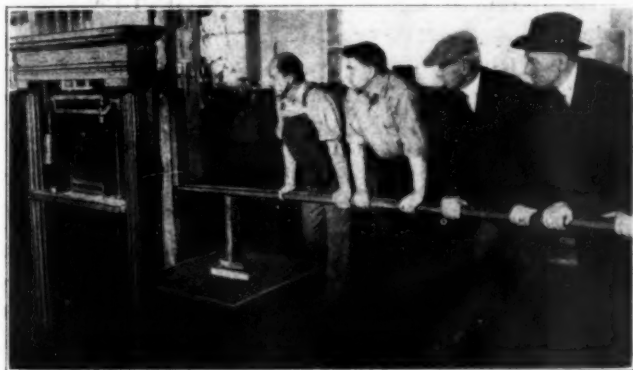
The Home Air Moistener and Spreader is made entirely of brass, is nickel finished, and will not rust or corrode. It will support one hundred pounds or more. It is intended for use on pipeless furnace registers. Also well adapted for regular warm air floor registers.

Mr. Van Evera states that since it takes at least fifteen per cent more fuel to raise the temperature from 63 to 70 degrees, and since properly moistened air at 63 degrees is more comfortable than dry air at 70 degrees, his Home Air Moistener and Spreader when installed will not only give added comfort but will also reduce the coal bill by a large percentage.

Tests Duplex Grating.

The accompanying illustrations show quite clearly the unusual tests to which the Hart and Cooley Company, New Britain, Connecticut, subjected their Duplex grating.

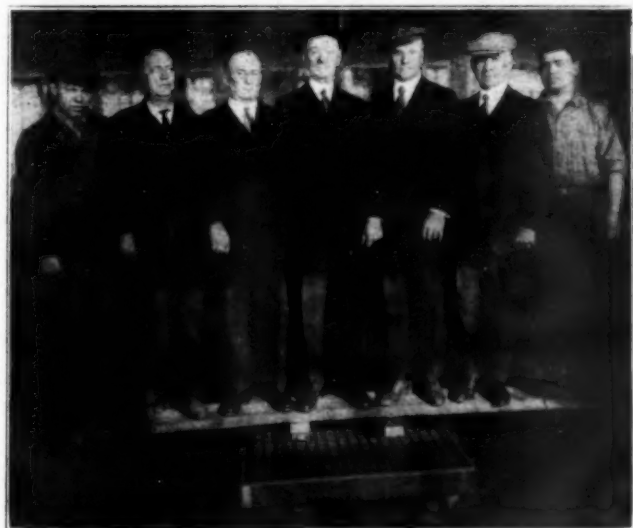
These are very severe tests and much more exacting



Showing Pressure of 2,000 pounds against a Hart & Cooley Duplex Grating.

than any grating would be put to in ordinary work but the Hart and Cooley Company wanted to go the limit and see what the Duplex grating would stand.

In the test where the four men are putting pressure



Testing Hart & Cooley Duplex Grating.

on the register shown on the scale weights amounting to 2,000 pounds were used and no effect whatever on the grating was produced. The seven men standing on the Duplex grating exerted a combined weight of

1,300 pounds. No perceptible effect whatever was made upon the Duplex grating.

The Hart and Cooley Company, manufacturers of wrought steel warm air registers, New Britain, Connecticut, have reason to feel proud of their product because of the sturdiness of its construction.

Three Sons Help Father in Furnace Business.

A. D. Mass & Sons, 727 Lincoln Way, West, South Bend, Indiana, doing a general hardware, sheet metal and Gilt Edge furnace business, have been in South Bend at the present location for five years, and their business has grown so in the past two years that they are going to move January 1, 1921, to their new location, 906 Portage Avenue, only two blocks from their present location.

Their new quarters will give them floor space for the hardware store 24x90 with a full basement, and a good light sheet metal shop 24x66.

Mr. Mass says that the furnace department has grown from installing twenty to twenty-five furnaces a year until this year to December 1st they have installed over one hundred Gilt Edge furnaces manufactured by R. J. Schwab & Sons Company, Milwaukee, Wisconsin.

He gives the credit of this to his three big sturdy sons who are associated with him in the business. These three sons do all the furnace and sheet metal work done outside the shop.

Alfred Mass has charge of this outside work, and he says that the next year with the new shop and more room, he would do twice the business. They have men in the shop who makes up the material for them, so they do not have this to bother with.

Will and Otto Mass can step into any one of the branches of the business, and are a great help to their father as well as Alfred, and when they are all on the job things surely do fly. When the job is finished it is done right.

Mr. Mass is buying the latest hardware display wall cases that he could get, and that everything throughout the store will be new.

The firm will have two fine display windows in the new location, and is going to install the latest hardware store fixtures.

A large wall case of the latest design for tools will be on one side of the store, and next to that will come the drawers with glass fronts to display the articles in each drawer.

There will be a bolt and screw case which will hold a hundred and fifty different sizes of each and new floor show cases, and a steel revolving nail case, which will hold from fifty to sixty kegs of nails.

When they are settled in their new store they will have one of the best equipped small hardware stores and furnace departments in the state, and will be able to give first class service.

Our grand business undoubtedly is not to see what lies dimly at a distance, but to do what lies clearly at hand.—*Carlyle.*

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

DETAILS FOR HINGED SKYLIGHT.

By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

In answer to the sketch for details of a gable skylight with raising lights on both sides, the accompanying drawing will help you out.

It is seldom that a skylight where the full sides open up and both sides at that, which makes this problem a little out of the ordinary.

The idea as met with in a gable skylight is followed, only such changes are made to suit our purpose. The correspondent in his sketch showed a 3"x1/2" flat bar for the core bar of ridge.

Not knowing if this was specified, or merely placed so in the absence of a better idea, the flat bar is shown here.

It would be better to make this central ridge bar a T-bar, with the flange underneath. This would give greater strength to side pressure.

The skylight is 14 feet long and 6 feet wide and 30 degree pitch, which makes the length of common bar about 3 feet 6 inches.

This is a good length, and considering the length as 14 feet there will be considerable weight of glass.

Now the common bar section "A" ought to have a core iron of about 16 gauge to lend stiffness of bar.

From each point in this section draw lines at 30 degrees both ways.

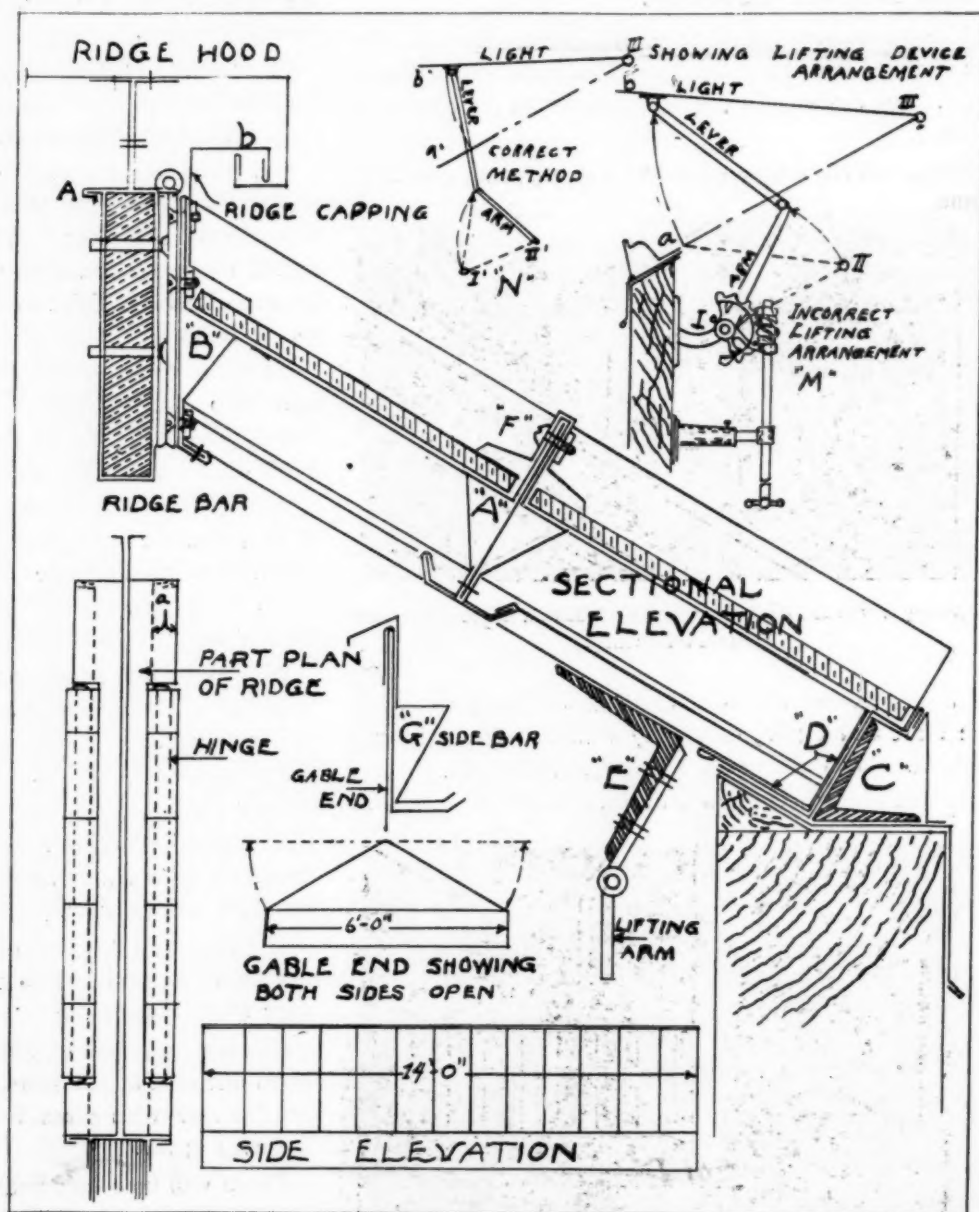
At a convenient distance from "A" draw the ridge bar section and add also the curb bar "C."

Observe how the ridge is formed to give strength. Also notice the bottom curb "C" with an angle bar

having a closed bevel set in place to support the lower curb.

Some means of support must be placed here, or the raising and lowering of sash will deform the curb, and especially as it is made of copper.

A false curb "D" must be attached to the common bars and made so it will drop in the curb "C."



Details for Hinged Skylight.

Now as a means of raising or lowering the sash and angle bar "E" should be riveted so the lifting arm can be attached.

At least two lifting arms must be attached to this angle, say, about 4 1/2 feet from the ends. Three lifting arms would be better.

Now the correspondent wanted to know how to overcome that opening space -a- of part plan caused

by the thickness of the hinges. I would suggest you put a joint as at A at the top of ridge.

This lock edge could be out for hinges or turned up and will cover the open space. This lock edge should not be made too large to interfere with the raising sash.

As a means to keep snow and rain out a ridge hood and ridge capping as -b- can be designed.

By leaving ample space the shield -b- will raise and drop, thus making a comparatively tight joint as concerns driving rain, snow and dust.

These details are suggestions, and the workman can alter them to suit his own ideas of conditions.

The side bar "G" is formed as shown to fit over the gutter of a set in pocket.

Patterns as required are very simple, only good long laps must be allowed on the common bar ends for riveting securely to the curb "D" and ridge "B." If this is not done, the twisting of the sash would crack to joints.

It would be better if the sash were made in two pieces so each half could be raised or lowered at a time.

As to lifting devices, I must advise the correspondent to write for catalogues of such firms that advertise in trade journals.

However, there is a correct and incorrect way of installing this equipment.

At "M" our sketch shows a common lift device ordinarily met with.

At I is a $\frac{3}{4}$ " gas pipe which is the main pivot.

The sash is shown as III-a closed, which places the lifting arm as I-II-a.

Observe the extreme acute angle this produces. So that by raising the arm there will be a strong pulling force on the hinge III as well as on the hinge of lever.

Now this is overcome by the drawing "N," where II' is the gas pipe pivot and I' the arm hinge.

Observe that by raising the arm I'-II' an almost straight line is maintained for the lever, thus opening the light with the least resistance.

The light III'-b' should never be permitted to open wider than horizontal. So in case if left open, and during a rain, the water will shoot over the back edge.

The light in "M" is placed over horizontal and in case of rain, the water would run down at the hinge, and on the inside.

Much of this can be observed while installing the system, and it may be helpful to visit greenhouses and note how the equipment operates.

Wisconsin Board of Directors Hold Meeting.

The chief topic of discussion at the December meeting of the Board of Directors, Master Sheet Metal Contractors' Association of Wisconsin, held December 8th, in Builders' and Traders' Exchange, Milwaukee, Wisconsin, was the matter of forming an Auxiliary organization to the Association.

Several other state associations of Master Sheet Metal Contractors have found such an Auxiliary very helpful in building up membership and promoting enthusiasm in their ranks.

The subject of raising the dues was taken up and on motion of the Secretary, C. W. Pansch, it was decided to let the matter go over until the next meeting.

The apprenticeship law was considered from various angles. The meeting, however, did not take any definite action with regard to it because those present were of the opinion that further study of the law is essential.

A motion was made and seconded that a vote of thanks be given to Secretary C. W. Pansch for attending the National Convention at Peoria, Illinois.

Says Banks Are Amply Prepared to Finance Business.

The National Bank of Commerce, New York City, in its monthly bulletin, Commerce Monthly, for November, says the banks are amply prepared to finance business while it is working out a more normal basis of operation and a stable level of prices.

In touching on this subject the bank says, in part: "The downward revision of prices continues to be the factor dominating the general business outlook.

"The movement is a natural and inevitable corrective of the unstable condition created in the previous period of rising prices, reckless public buying and widespread speculation.

"Before the close of 1919, prices of a number of important commodities had begun to decline. By spring of 1920 a definite downward trend had been established.

"Since then the movement has been accelerated, until within recent weeks it has forced general recognition that the period of excessive buying at rising prices has definitely ended.

"Business must now go forward on a lower price level. This readjustment can not be effected without embarrassment in individual cases.

"It will be effected, however, without serious general results by reason of the inherent strength of the credit situation and the assured cooperation of the banks with business.

"Inventories can not be disposed of abruptly. In many lines, owing to general indisposition to buy their liquidation must be effected very gradually.

"Meanwhile, they must be financed. The long run effect of the downward price movement, however, will be to ease the credit situation.

"The freedom from disturbance with which the readjustment is effected depends largely on the willingness of business to recognize the changed conditions."

How to Solder Galvanized Iron.

Be sure to have a very hot soldering copper in soldering galvanized iron, even though it has to be returned often. When the copper is not sufficiently hot, it simply solders to the surface of the zinc, which is liable to peel off. In having the iron hot, the soldering gets to the iron, and the solder and zinc are more thoroughly fused together and to the iron.

"That which blossoms in the spring will bring forth fruit in the autumn." The advertisement which blossoms today brings forth fruit tomorrow.

Greenberg Relates Reasons Which Led Lawson to Join the Master Sheet Metal Contractors' Association.

The Principal Trouble with Jim Lawson Was That He Paid Too Much Attention to the Money End of the Job.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg, Peoria, Illinois.

(Copyright, 1920, by J. C. Greenberg.)

It was just twelve o'clock when I entered Jim Lawson's shop. You see the only time I can see him about getting an order is at noon. He is always sure to be there. He carries his lunch because he lives too far away to go home.

Jim, Andy, Pete and Frank were all seated on the bench eating their lunch. The last three are his workmen.

After the usual "Howdy, boys," I sat down on a stool waiting for Jim to open up. Jim seemed busy reading an item from the newspaper in which his lunch was wrapped, and, looking up, he said:

"Here is some more bull from Mr. Schwab, the steel mill millionaire. He is giving some advice. He says that the people do not save enough. He should worry. He has more money than he will ever use in a thousand years."

"You said a mouthful, Jim," Andy spoke up.

"These right birds all give advice, but when it comes to paying wages, there is nobody home."

"Well," said I, "there is nothing wrong about Schwab's advice. If we folks would save more we would have more, wouldn't we?"

"Sure you would," Andy butted in, "if you didn't spend your money for feed and clothes you could save it. Look at me. I work like a fool and all I have left you could put in your eye. All that save bunk is just a lot of stuff these rich guys put across to see their names in the papers."

Pete and Frank did not say a word. They just looked wise.

"Well, Jim," I casually remarked, "You and Schwab don't seem to agree about saving. Personally, I believe that he is right. He has saved, he has done wonderful things, and a man of his class can not afford to say anything that is not practicable."

"Of course you agree with him," remarked Frank. "You traveling men are sure got a cinch. All you have to do is to travel around from one hotel to another and get orders. You don't work, you don't sweat like we fellows do. No wonder you agree with the million-

aires and talk such a lot of rot."

"You misunderstand me, Frank," I retorted. "I am not siding with Schwab because he is a millionaire. I am only upholding his advice. I maintain that he is right, and his advice about saving money is good, and it can be done."

Pete was getting fidgety. He was dying to say something. So I turned to him and said:

"Pete, what's on your mind. Do you save anything?"

But before Pete could answer, Tom Newman came in.

Tom was the president of the Sheet Metal Contractors' Association and a good friend of Jim's.

As Tom was advancing toward us, Andy spoke up and said:

"We will just leave it to Tom. He is the oldest young man in town, and ran a tin shop before all of us were born."

Tom stood there smiling. He always smiles. He has a smile coming.

He has made a nice little nest egg, carries a good lot of insurance, and adds to his savings every year.

His son John is as dutiful a son as any man cares to have, and both of them are strong for saving. So Tom

asks what the discussion is about.

Jim, still holding the newspaper in his hand, commented:

"Tom, we were just talking about Schwab's article on saving money, and I say it is all bull. I maintain that in order to save, one must have more than he needs. That it is impossible to save unless one can afford to save. What is your opinion about it?"

"You are right and you are wrong, Jim," answered Tom. "You are right when you say you can not save because you do not make enough out of your business to save. You are wrong because you do not make enough —"

"How come I am wrong because I do not make enough money to save some?" interrupted Jim. "I can not help my income. I am always busy, and I work right beside my men all day, but when I pay them off,

THERE is such a thing as being too busy. Hard work alone does not bring profits. Indeed, many a man has ended a lifetime of the hardest kind of work not with much more than an extra pair of socks.

The important thing is how the work is done rather than how much of it is done.

The trouble with Jim Lawson and scores of his type is that they have the wrong motives in their work.

They fail to consider that the job is a medium of service and that the most money comes from the most service, not from the most perspiration and the longest hours of toil.

and pay my regular expenses, I am about all in for money.

"Believe me, Tom," he continued, "I'd sell out in a minute if I could. There is nothing in this sheet metal business nohow. I am the cheapest man in town, have lots of work, but I can not see how I can save any money."

The discussion now narrowed down between Jim and Tom Newman. We were all interested, and did not venture to say anything at all.

"Because," Tom ventured to say, "you are the cheapest man in town, and have the most work does not mean that you are earning the most money. In fact, you are earning the least because you are letting your customers keep your profit."

"You are wrong," asserted Jim. "I am charging all my work is worth and I work myself in order to see to it that it is done well."

"Then, Jim," Tom said earnestly, "you must make your work worth more money so you can earn more and save some. Look at our shop. We pay our men as much as you pay yours, but we get bigger prices than you do because we do better work."

"You do not see myself or my son John working with the men at jobs worth ninety cents an hour, do you?" he queried. "We believe that our time can be spent to better advantage by getting more work for the men to do. We are what you might call salesmen. We sell service instead of selling jobs."

"What do you mean service?" asked Jim. "Where do you get that service stuff at, Tom?"

"Well, I'll tell you what service is," answered Tom. "I'll bring it right home for you, Jim. Last spring you did a job on Webster Street for a Mr. Stone. You fixed forty-five feet of gutter with blackjack (roof cement) for him. He thought that you would fix it with solder. Well, the job leaked badly, and he asked us to fix it right, which we did by putting up new gutters on the job. We gave him service, while you only did a job for him. You may as well have done it right in the first place, Jim." At this point Andy began to laugh and said:

"I remember that job, Jim, I did it. Remember I told you that that job needed new gutters, but you told me cement was good enough for the price Stone paid. Believe me, Tom is right about that word 'service.' I am beginning to understand him good."

Jim looked sheepish. What could he say? He saw clearly that Tom was logical in his remarks.

He saw that service meant the doing a right job the right way at the right price was real business.

He said nothing in reply to Tom's remarks. Tom resumed by saying:

"Jim, the trouble with you, and many other shops is that you pay too much attention to the money end of a job, and too little attention to satisfactory service to your customer. You do not plan for patronage."

"I don't get you, Tom," said Jim somewhat embarrassed, "when you say patronage, is not a customer a patron?"

"Not by a long shot," answered Tom with a twinkle in his eye, "a customer is different from a patron. A customer gives you the first job to see how good you are, and when he comes again and again, he is then

a patron. You are all wrong about it. That is why you are not saving money."

"That does not tell me anything, Tom," persisted Jim. "Just because I cemented Stone's gutters does not say that I cement all my jobs. What has that to do with saving money?"

"It has this much to do with it, that Stone will not boost you to his friends; that's all," answered Tom.

"How do you expect to build up a good business without patrons?" he continued. "Your reputation lies in every job, and if the job is not good, your reputation suffers, and without reputation for good and honest work you lose out every time you do a bum job. All you look for is profit, but do not pay attention to the doing of the job in such a way that its good quality will last long after the job is paid for. A quality job means good material, good workmanship, good price and good profit."

"Well, I suppose you are right," admitted Jim, "but I simply can not see how I could charge more for my work when the customers are kicking hard at the prices I ask at present. They think they are being robbed right now, and if I ask more money I wouldn't get a single job. It's all right for you to talk about it to me, but it can't be done."

"Yes it can," said Tom convincingly. "All you need is a little more courage, Jim. It takes nerve to conduct business. It takes a business man to succeed. You are not a business man. You are only a tinner. If you were a business man, you would join the Association and learn business methods. You would learn how to figure a job, you would learn how to figure your overhead expense, and you would get many good ideas which will do you a world of good."

"There you go again about that Association stuff," said Jim impatiently, "All you fellows do is try to put the small man out of business. What chance do I have with your big shops anyway?"

At this question Tom laughed out loud. He had reasons to laugh. He said to Jim:

"There is no man so blind as he who will not see. Do you know Bill Hanson? Well, you called him a dub for joining us, but now, Bill has bought his own home, and is making more money than he ever did, and does not charge any more for his work than he did. Do you know Henry McKay? He was like you, he was blind. But now he has a good bank account, and bought a new Ford for his business. Do you know Fred Wells? Look where he is now. He just joined the Savings and Trust Company and is on the road to success. There is a reason, Jim, for all this, but you do not believe it."

"What is the reason, Tom?" anxiously asked Jim, "I know what you say is true, but I can not figure it out."

"The reason is," said Tom quickly, "that these men have learned how to be business men. They have learned that you can not guess at the price a job is worth. They have learned that a man can not be the executive, the financier, the producer, and the salesman in his business unless he gets the good ideas from his fellow business men in his own line. They are advancing, while you are plodding along and not earning any money. Do you suppose you know more about the

sheet metal business than all of us put together? Wake up, Jim, and open your eyes. We can, and are willing to help you if you want to help yourself."

Tom looked at his watch, and said good-bye to all of us, and as soon as he was out of the shop, Jim turned to me and asked:

"What do you really think about this Association? Come clean and put we wise."

"It is the best thing that ever happened, Jim. It will make a different man out of you. I am a member of the Auxiliary, and I have applications. Sign up, and I will present it tonight at their meeting."

Jim signed up, but I believe today that Jim thinks it was all a put up job.

Defends Pittsburgh Basing Price System.

Arguments in defense of the present single basing point price system for the determination of steel prices were heard by the Federal Trade Commission when counsel and spokesmen for the principal steel manufacturing companies took the stand to defend the present system from new plans suggested to the commission.

It is the object of the arguments begun today to have the commission dismiss the requests of the western steel consumers for the establishment of an additional basing point to bring about uniformity of steel prices throughout the country.

R. V. Lindabury, counsel for the United States Steel Corporation, was the principal spokesman for the steel industry at a recent hearing and he presented the principal arguments of the companies against the abolition of the single basing point plan.

To refute the arguments of the western steel consumers for additional basing points Mr. Lindabury explained that steel is a world-wide business commodity and that it is necessary to sell at a single price plus any difference required by the cost of transportation. It is not practical, he said, to quote different prices to consumers in various parts of the world.

Mr. Lindabury declared that the single basing point price plan does not prevent independent mills from going into the market where the best market price prevails.

The fact that the independent companies do enter such a market, he said, is evidence that the base price plan has no tendency to suppress competition or create a monopoly.

Selling in competition at the market price, he said, can not suppress competition or result in a monopoly.

The United States Steel Corporation, Mr. Lindabury contended, had a right to make a base price at each of its mills if it so wished, but that in its discretion it had fixed a base price at Pittsburgh and now sells all its steel at that price, no matter where the mills are located.

It was said by Mr. Lindabury that if there is a combination of fixed prices among the steel manufacturers obviously it is not unfair competition under the Federal Trade Act and not within the jurisdiction of the Federal Trade Commission, but comes under the Sherman Act and within the jurisdiction of the De-

partment of Justice, as such prices would result not in unfair competition but in the suppression of competition.

Mr. Lindabury presented quotations to the commission to show that the Pittsburgh base steel price practice was adopted before the birth of the United States Steel Corporation.

Continuing his arguments Mr. Lindabury denied that the continuance of the single basing point resulted in an unfair method of competition. To prove this point Mr. Lindabury cited recent court decisions refusing to hold present practices illegal or unfair.

The opinion was expressed by Mr. Lindabury that the single basing point will not remain in force when steel production catches up to the demand.

There were times recently, he said, when the single basing point did not govern steel prices, when in places there was an excess steel supply over the demand.

To deny the contention of the western steel consuming interests that the continuance of the single basing points retarded the development of the steel industry in that section, Mr. Lindabury cited estimates to the effect that steel production increased nearly 500 per cent in the West as compared with a greatly less increase in production of the eastern mills.

Louis Giclas Sends Unusual Holiday Greeting.

Most appropriate but very, unusual is the medium used by Louis Giclas, the well-known sheet metal contractor of Washington, D. C., in sending yearly holiday greetings to AMERICAN ARTISAN AND HARDWARE RECORD. He logically uses the materials of his craft.

He etched his good wishes on a piece of galvanized sheet iron 9 1/8 inches long by 4 7/8 inches wide. With

*To the American Artisan,
Merry Christmas.
Of all the wishing dir to do:
A paper is not sincere enough for you,
The not as pretty as the rose's petals,
I cut on this enduring TONCAN metal
Be blest
Sincere expect.
Copyright 1920.
Louis Giclas*

the unique sheet metal card came the following letter:
TO AMERICAN ARTISAN AND HARDWARE RECORD:

I haven't written to you for some time, but on looking over back numbers I see you have printed some good things for me and of me.

I am sending you a little ahead of time a squib in verse for the holiday greetings in order that you may have time to photo-engrave it, in case you publish it.

There is no advertising connection for me, I use that brand of special sheets in preference to others and so it came quickly to the front.

The etching is done with muriate of copper, a marking stuff familiar to cornice-makers.

Yours truly,

LOUIS GICLAS.

Washington, D. C., December 14, 1920.

Instructive Notes and Queries

The Service of This Information Bureau Is Free to Our Subscribers and They Are Urged to Use It Freely.

TELLS HOW TO COLOR SOLDER TO MATCH COPPER WORK.

To color the solder on copper work to correspond in color with the copper, dissolve crystal sulphate of copper (blue vitriol) in water and apply with a brush or iron rod.

The more coats of this solution that are applied, the deeper and nearer copper color is obtained.

For copper cornice work the exposed soldering may be concealed by first applying shellac dissolved in alcohol, and before it can dry freely sprinkle with powdered copper bronze; or the copper bronze can be placed in banana oil and applied where wanted with a brush.

Do not make up more than needed because it dries up quickly.

Gives Formulas for Making Waterproof Putties.

The following formulas for waterproof putties have been tried out in numerous instances and found to be of practical service:

1. Grind powdered white lead or minium (red lead) with thick linseed oil varnish to a stiff paste. This putty is used extensively for tightening wrought-iron gas pipes, for tightening rivet seams on gas meters, hot-water furnaces, cast-iron flange pipes for hot-water heating, etc. The putty made with minium dries very slowly, but becomes tight even before it is quite hard, and holds very firmly after solidification. Sometimes a little ground gypsum is added to it.

The two following putties are less costly in the making than the above-mentioned red lead putty:

2. One part white lead, one part manganese, one part white pipe clay, mix with linseed oil varnish.

3. Two parts red lead, five parts white lead, four parts clay, ground in or prepared with linseed oil varnish.

4. Excellent putty, which has been found invaluable where waterproof closing and permanent adhesion are desired, is made from litharge and glycerine. The litharge must be finely pulverized and the glycerine very concentrated, thickly liquid, and clear as water. Both substances are mixed into viscid, thickly liquid lumps. The pegs of kerosene lamps, for instance, can be fixed in so firmly with this putty that they can only be removed by chiseling it out. For putting in the glass panes of aquariums it is equally valuable. As it can withstand higher temperature it may be successfully used for fixing tools, curling irons, forks, etc., in the wooden handles. The thickish putty mass is rubbed into the hole, and the part to be fixed is inserted. As this putty hardens very quickly it can not be prepared in large quantities, and only enough for immediate use must be compounded in each case.

5. Five parts of hydraulic lime, 0.3 parts of tar, 0.3 parts of rosin, one part of horn water (the decoction resulting from boiling horn in water and decanting the latter). The materials are to be mixed and boiled.

After cooling, the putty is ready for use. This is an excellent cement for glass, and may be used also for reservoirs and any vessels for holding water, to cement the cracks; also for many other purposes. It will not give way, and is equally good for glass, wood, and metal.

6. This is especially recommended for boiler leaks: Mix well together six parts of powdered graphite, three parts of slaked lime, eight parts of heavy spar (barytes), and eight parts of thick linseed oil varnish, and apply in the ordinary way to the spots.

Tells How to Repair Enamelware.

Here are three ways to mend enamelware:

1. Place the article to be repaired on a square or mandrel stake and hammer on the defective spot, when the coating will come off of a sufficient space to solder or patch.

2. To mend enamelware, place the article to be mended upon a piece of iron, so that it will be perfectly solid and pound the rivet as a blow on the enamelware would cause the enamel to cleave off.

3. Place the article to be repaired on something firm and with a chisel or other tool peck off about one-quarter of an inch around the hole. Scrape with a knife or scraper until bright. Flux with moderately strong acid and solder all the bright space from which the enamel has been broken off.

Tells How to Clean Zinc.

Dissolve a teaspoonful of oxalic acid in a half pint of water, and wash the zinc with the solution, after which the zinc should be washed off with water, and polished with a woolen cloth and dry whiting.

* * *

Enameled Steel Table Tops.

From I. H. Breese, Paw Paw, Illinois.

Kindly advise where I can buy enameled steel table tops and covers for pantry work tables.

Ans.—Vitreous Enameling Company, Grant Avenue, Cleveland, Ohio.

Cast Iron Smoke Pipes for Furnaces.

From H. Laurence, Rosemond, Illinois.

Can you give me the name of the manufacturer of cast iron smoke pipes for furnaces which appeared in an advertisement in AMERICAN ARTISAN a short time ago?

Ans.—Waterloo Register Company, Waterloo, Iowa; Chicago Agents, Manny Heating Supply Company, 131 West Lake Street, Chicago, Illinois.

Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,357,398. Lock Blade Pocket Knife. James Haywood, Bridgeport, Conn., assignor of one-half to Ferdinand J. Fotch, Bridgeport, Conn. Filed November 19, 1919.

1,357,425. Soldering Tool. Hippolyte Romanoff, New York, N. Y. Filed May 14, 1919.

1,357,432. Stove Casing. James Carroll Ross Abernathy, Evanston, Ill. Filed December 17, 1919.

1,357,435. Wire Stretcher. Aaron Ashbrook Andrews, Harris, Kans. Filed October 30, 1919.

1,357,437. Shears. Charles Baker, Hartford, Wis., assignor of one-tenth to Albert J. Holzbauer, Milwaukee, Wis. Filed November 1, 1919.

1,357,454. Wire Splicer. Lloyd M. Hellyer, Holden, W. Va. Filed April 30, 1920.

1,357,462. Parallel Ruler. Hans A. Lund, Brooklyn, N. Y. Filed December 4, 1919.

1,357,490. Funnel. James S. Farlinger, Verona, N. J. Filed July 21, 1920.

1,357,572. Metal Fencepost. Edgare Spencer Lachmann, Chicago, Ill. Filed May 13, 1920.

1,357,583. Door Closing Device. John O. Naslin, Seattle, Wash. Filed March 22, 1920.

1,357,597. Frame for Radiators. John Springer, Jersey City, N. J. Filed July 12, 1918.

1,357,606. Soldering Iron. Launce R. Barber and Joseph A. Baker, Sharon, Pa. Filed December 11, 1919.

1,357,610. Ash Sifter. Wasyl Bytzka, Helmetta, N. J. Filed April 7, 1919.

1,357,619. Flytrap for Screen Doors and Windows. Henry F. Davis, Walter, Okla. Filed March 10, 1919.

1,357,629. Non-Dripping Spout. Michael J. Faistl and George A. Selig, Columbus, Ohio. Filed June 4, 1919.

1,357,678. Fishhook. Addison Bain, Marion, Ohio. Filed March 22, 1920.

1,357,679. Shaving Kit. Raymond Henry Ball, Adams, Mass. Filed January 31, 1920.

1,357,689. Expanding Drill. Willis Clark, Buffalo, N. Y., assignor of one-half to Charles D. Clark, Buffalo, N. Y. Filed October 7, 1918. Serial No. 257,170.

1,357,697. Camp Stove. Earl E. Adams, Rogers, Ark. Filed November 29, 1916. Serial No. 134,118. Renewed September 29, 1920.

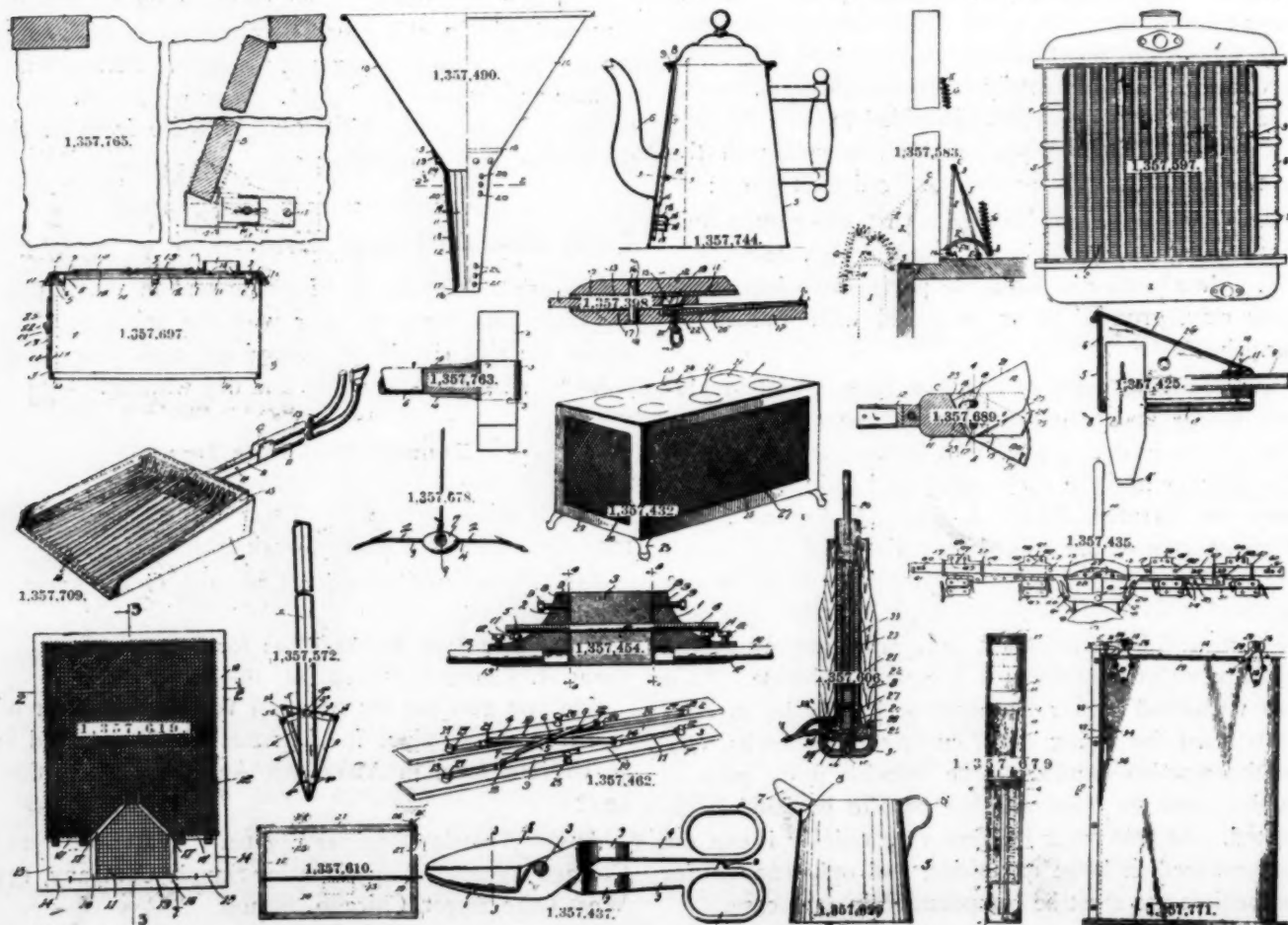
1,357,709. Combined Shovel and Ash Sifter. Daniel C. Jacobus, Caldwell, N. J. Filed January 29, 1920.

1,357,744. Strainer. Leo Taub, Jersey City, N. J. Filed June 5, 1919.

1,357,763. Detachable Handle for Cutters, etc. Richard P. Collins, Norwood, Pa. Filed March 15, 1918.

1,357,765. Door Stop. Nathaniel Crank, Hill City, Kans. Filed January 7, 1920.

1,357,771. Releasable Door Hanger. William A. Geiger, Chicago, Ill., assignor to William H. Miner, Chazy, N. Y. Filed June 12, 1919.



Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,357,784. Connected Blowout Patch. Benjamin J. Levin, New York, N. Y. Filed July 31, 1919.

1,357,822. Rim Tool. William J. Radcliffe, Williamsfield, Ill. Filed June 14, 1919.

1,357,843. Universal Variable Chuck. Clarence G. Cashman, Waynesboro, Pa., assignor of one-half to John B. Eader, Waynesboro, Pa. Filed September 19, 1919.

1,357,849. Sash Lock. Thomas Harry Dean, Dayton, Ohio. Filed March 29, 1918.

1,357,855. Adjustable Brush and Weed Cutter. William Dryer, Topeka, Kans. Filed June 11, 1920.

1,357,863. Safety Razor. William Francis Hagarty, Philadelphia, Pa. Filed September 15, 1919.

1,357,913. Broom. James T. Taylor, Normangee, Texas. Filed February 14, 1919.

1,357,914. Jar Opener. De Witt Tower, Spencer, Mass. Filed March 5, 1919.

1,357,935. Adjustable Socket Wrench. Ulysses G. Argetsinger, Mapleton, Minn. Filed March 15, 1920.

1,357,975. Spark Plug. Frederick Hachmann, St. Louis, Mo., assignor of one-sixteenth to Chauncey R. Watson, one-sixteenth to Philip E. Moody, and one-sixteenth to Elijah E. Fraser, Detroit, Mich., and three-eighths to David M. Hutchinson, Ferguson, Mo., and one-fourth to Herman C. Stifel, St. Louis, Mo. Filed June 26, 1919.

1,357,999. Driving Mechanism for Washing Machines. Joseph Krabec, Chicago, Ill. Filed December 5, 1919.

1,358,009. Squaring Instrument. James D. McCallum, Longueuil, Quebec, Canada. Filed November 14, 1919.

1,358,047. Clothesline Holder. Victor E. Anderson, Maywood, Ill. Filed May 21, 1919.

1,358,059. Portable Electric Heater. Joseph C. Clutts, Fort Thomas, Ky. Filed July 20, 1920.

1,358,077. Gate Latch. George W. Goss, Baltimore, Ohio, assignor of one-half to Charles E. Goss, Baltimore, Ohio. Filed July 10, 1919.

1,358,078. Wrench. John Halbritter, Boston, Mass., assignor to Walworth Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed May 19, 1920.

1,358,097. Knife. Max Neft, Seattle, Wash. Filed September 22, 1919.

1,358,115. Safety Razor. Henry Schleisinger, New York, N. Y., assignor of three-fourths to William J. Jaeger, New York, N. Y. Filed February 2, 1920.

1,358,145. Bottle Capper. Raymond B. Glidden, Kewanee, Ill., assignor to Ideal Manufacturing Company, Kewanee, Ill., a partnership composed of B. F. Baker, W. D. Glidden, and R. B. Glidden. Filed September 29, 1919.

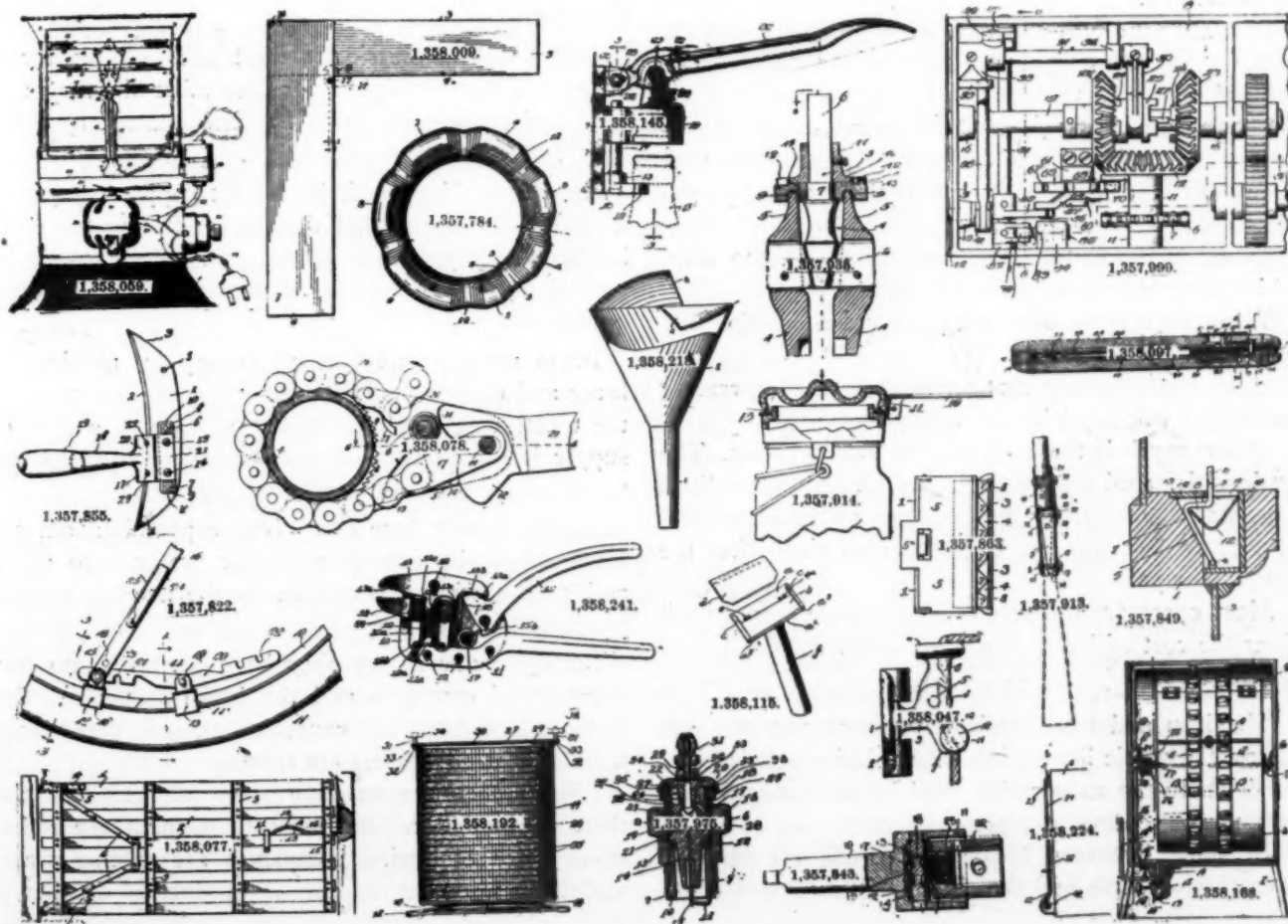
1,358,168. Washing Machine. Brunson S. McCutchen, Plainfield, N. J. Filed September 8, 1919.

1,358,192. Dish Washing Device. Grover C. Frantz, Harrisburg, Pa. Filed May 31, 1919.

1,358,218. Funnel. Isaac J. Kosminsky, Texarkana, Texas. Filed July 11, 1919.

1,358,224. Automobile Radiator Shield. Hugh F. McClain, Protection, Kans. Filed July 16, 1919.

1,358,241. Wrench. Burton H. Parker, Detroit, Mich. Filed April 2, 1920.



Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

STEEL PRODUCTION FALLS BELOW AVERAGE.

As reflected in the November figures made public last week, there is in effect a drastic curtailment of iron and steel production throughout the country.

Figures made public by the American Iron and Steel Institute show that the production of steel ingots during the month of November by 30 companies which made 89.12 per cent of the country's steel in 1919, amounted to 2,638,670 tons, as against 3,015,982 tons in October, a decrease of 377,321 tons.

Of the November production 1,961,861 tons were open-hearth, 673,215 tons Bessemer, and 3,594 tons all other grades.

The November output was the smallest for the year with the exception of April, which was 594 tons less. Pig iron output in November was 2,934,908 tons, as against 3,299,597 tons in October, a decrease of 357,689 tons.

During November 44 furnaces were blown out, as against 11 blown in, a net loss of 33 and a total loss of 67 in November and October combined.

December 1 it was estimated that 252 furnaces were producing 89,240 tons of iron, as against a production of 98,080 tons by 285 furnaces a month previous.

On Saturday the United States Steel Corporation issued its monthly unfilled tonnage report, which showed a decrease of 815,317 tons during the month of November.

Orders as of November 30 amounted to 9,021,481 tons, as against 9,836,852 tons October 31 and 11,118,468 tons July 31, the high record since 1917.

This decrease shows new business booked at approximately half the rate of capacity production, with shipments in excess of 85 per cent of capacity output.

Cancellations must have been about 300,000 tons, which were applied to early deliveries.

Wage reductions are being discussed by the mill interests.

Some state frankly that when they start operating again they will buy labor as cheap as possible.

Others say it is too early to formulate a policy. The trade anticipated a wage cut by the United States Steel Corporation or by the independents on or about December 15, but this has been deferred until after the first of the year.

Most operators are reluctant to reduce wages until after the cost of living has come down further.

Steel.

The iron and steel market continues stagnant and almost the whole list of finished steel products is quoted down to the corporation level by the independents with the exception of pipe.

In some instances independent mills are shading even this schedule and the trade in general would not

be surprised to see the major part of the list reduced to below the prices asked by the leading interest in order to stimulate buying.

Another product that is holding firmly above the March, 1919, Industrial Board schedule is rails, which most of the independents are quoting at \$57 a ton.

There seems to be a little more demand for galvanized sheets in the present market than for black and blue annealed and some mills still quote above the general market.

Many of the independent mills are losing money on some of their products at the corporation level and are seeking ways and means of cutting the cost of production.

Pipe demand continues strong both from domestic and foreign consumers. There are inquiries for pipe in the market at present aggregating several hundred miles.

If general reductions in prices below the corporation level are effected the first to be cut will in all probability be plates, shapes and bars, as the demand for these at the present time is even slower than in most other lines.

Spikes were one of the last to be reduced to the common level or 3.65 cents for standard railroad, Pittsburgh base, while the smaller spikes are generally quoted at 4.50 cents, although some mills are still holding out for higher prices.

Copper.

Sellers in the outside market are holding for a quarter of a cent higher for December delivery and are quoting the same price for first quarter 1921 delivery.

An official of one of the largest copper companies is quoted as saying that dealers in the outside market had exhausted their supplies and had no more copper for sale, which was the reason for advancing their quotations.

Brass manufacturers saved money by melting up brass and copper shells for their copper content when the metal was at 18 cents, but at 14 this source of supply is eliminated, but not before some 75,000,000 pounds were retrieved from war munitions.

At the present time electrolytic copper is about $3\frac{1}{4}$ cents below the average price for the past 20 years, and 3 or 4 cents a pound below the average current production costs.

Large producers say they have permitted no cancellation of contracts and the belief is general that if there have been any cancellations, it is very exceptional, if the purchasers are solvent.

Evidence is accumulating from day to day that there is general retrenchment throughout the industry. More producing companies are cutting wages and the movement to curtail production further is

quite general, but it requires from 60 to 90 days before reduction in output makes itself apparent.

By March 1st and possibly sooner, the reduced production of refineries as well as of smelters will be clearly evident to the most obtuse.

Tin.

In the domestic tin market, there is apparently so little inducement to buy that neither dealers nor consumers seem interested except at further concessions.

Inquiries are reported for Banca tin, supplies are almost unobtainable.

The market continues exceedingly dull and tin for prompt delivery continues easy owing to lots which have to be sold.

A decline of $1\frac{1}{2}$ cents per pound has taken place in the Chicago market. Pig tin has decreased from $39\frac{1}{2}$ cents to 38 cents per pound; and bar tin from $41\frac{1}{2}$ cents to 40 cents per pound.

Lead.

Dealers and producers in the outside market for the most part are holding to the price of the leading interest which is 5 cents a pound for New York and St. Louis deliveries, but there is little business being transacted at the present time.

Chicago prices have taken a slight downward turn. During the week, American pig lead declined from \$5.50 to \$5.20 per hundred pounds and bar lead from \$6.25 to \$5.95 per hundred pounds.

Solder.

No further changes have occurred in the Chicago solder market. Prices now in effect are as follows: Warranted 50-50, per 100 pounds, \$25.00; Commercial 45-55, per 100 pounds, \$23.00; and Plumbers', per 100 pounds, \$21.00.

Zinc.

The settling price of zinc, New York delivery, dropped from 6.40 to 6.25 cents a pound Monday of this week, but the market is too dull to call it anything but a nominal price.

At the same time asking prices of zinc in St. Louis were lowered from 6.15 to 6 cents without awakening any response.

Zinc in slabs declined in the Chicago market from \$6.90 per hundred pounds to \$6.35 per hundred pounds.

Sheets.

The independent sheet mills, on an average, are operating very lightly, the operation being affected doubly, by the decrease in consumption and by the increased shipments of the leading interest.

A precise statement of the rate of independent operation is impossible; but a fair guess would be that it is hardly over 50 per cent.

Almost all the independents are now quoting the Steel Corporation prices, the break in this direction having occurred at the close of week before last.

There is no definite knowledge that any of the independents are shading prices, but in some quarters of the trade it is regarded as far from impossible that some shading will occur if some really desirable orders are offered.

The independents are not necessarily eager for busi-

ness in all cases. The sudden drop in their quotations to the Steel Corporation level did not mean that the prices were attractive or profitable. It was Hobson's choice.

The independents that make their sheet bars are in better position than those that buy their bars, for there is a profit in \$47 sheet bars and a very limited demand when it comes to selling them.

The best that any mill that buys its sheet bars has been able to do is to get an adjustment to \$47, on contracts originally written at higher figures. With \$47 sheet bars, present wages, and Industrial Board prices for sheets there does not seem to be any profit to the sheet mill unless it has good specifications and a fairly full run.

Tin Plate.

Last week the leading interest operated about 75 per cent of its tin mills, a larger operation not being feasible on account of the steel supply, unless sheet bars were taken from sheet mills that needed to operate.

The company's sheet mill operations last week were the heaviest for a long time.

As to the independents, there is a wide variety. Of the two largest, for instance, one is running almost full and the other at quite a low rate.

Among the other independents there are great differences. The average for all the independents is probably between 50 and 60 per cent.

As to operations during the next few weeks, or say to February 1st, much will probably depend on the willingness of producers to make and carry tin plate for customers.

Chicago prices of first quality bright tin plates have undergone an additional decline during the week.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$20.00 to \$21.00; old iron axles, \$32.00 to \$33.00; steel springs, \$19.50 to \$20.00; No. 1 wrought iron, \$16.00 to \$16.50; No. 1 cast, \$21.00 to \$22.00; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, $8\frac{1}{2}$ cents; light brass, $5\frac{1}{2}$ cents; lead, 4 cents; zinc, $3\frac{1}{2}$ cents; cast aluminum, 12 cents.

Pig Iron.

"The thing that is really wrong with the iron trade is that it has not enough orders—that is the thing in brief," says the Matthew Addy Company, Cincinnati, Ohio.

"No one dreamed when prices of iron and steel were sky-rocketing how painful would be the process when prices went the other way about. All now is confusion.

"The main trouble is not with prices—that is a secondary matter—but with the refusal of buyers to live up to contract obligations. This does not mean that all buyers are attempting to cancel contracts.

"On the contrary, the buyers who demand cancellations are not numerous. But an overwhelming majority of pig iron consumers are declining to receive or allow shipments."

BOLTS. Carriage, Machine, etc.	CARRIERS. Hay. Diamond, Regular...each, Nets Diamond, Sling... "	CHURNS. Anti-Bent Wood, Gal 5 7 10 Each \$3 00 4 60 4 85 Belle, Barrel 65¢ & 7½¢	CRAYONS—See CASE. CUTTERS Glass, Woodward 40%
Carriage, cut thread, ¾x6 and sizes smaller and shorter 40 & 10% Carriage, sizes larger and longer than ¾x6 15% Machine, ¾x4 and sizes smaller and shorter 50% Machine, sizes larger and longer than ¾x4 40% Stove 5-10% Tire 40-5%	CARTRIDGES. See Ammunition. CASTERS. Standard—Ball Bearing. 50&10% Bed 40% Common Plate. Brass Wheel 15% Iron and porcelain wheels, new list 50% Philadelphia Plate, new list 50% Martin's 40%	Common Dash, Gal 5 7 Per doz. \$17 00 19 00 CLAMPS. Adjustable. Martin's 30% No. 63, Screw 20% Cabinet. Screw 20% Carpenters'. Steel Bar...List price plus 25% Carriage Makers'. 3½" per doz. 7 00 5" " 14 00 8" " 28 00 12" " 46 00	Meat. Enterprise—Nox. 5 10 12 Each. +\$2 50 \$4 25 \$3 75 Nox. 22 32 " 6 50 8 50 Pipe. Saunders', No. 1 2 3 Each \$1 85 2 75 6 75 Slaw and Kraut. Per doz. 4-knife Kraut. \$20 00-55 00 3-knife Kraut, 8x27 in. 13 00-18 00 1-knife Slaw 3 50 2-knife Slaw 3 00 Washer 11 00
Mortise, Door. Gem, iron 5% Gem, bronze plated 5% Barrel. Cast Nets Wrought " Wrought, bronzed " Flush. Wrought " Spring. Wrought " Wrought, heavy " Square. Wrought "	CATCHERS, GRASS. No. 160S, per doz. \$12 25 No. 165S, " 14 01 CEMENT, FURNACE. American Seal, 5 lb. cans, net \$9 45 " " 10 lb. cans, " 90 " " 25 lb. cans, " 87 Asbestos, 5 lb. cans, " 45 Pecora, 5 lb. cans, " 45 " 10 lb. cans, " 90 " 25 lb. cans, " 87 CEMENT ASBESTOS Per bag \$3 00 CHAINS. Breast Chains. With Slide, doz. pairs, 5 50 Without Slide, " 5 06 Doubleslack, " 9 35 With Covert Snaps " 6 35 Picture Chains. Light Brass, 3 ft. per doz. \$1 25 Heavy Brass, 3 ft. " 1 75 Sash Chain. (Morton's) Steel, per 100 ft. 0 \$2 50 2 2 10 1 2 60 Champion Metal. 0R 5 40 2R 5 60 1R 7 75 Champion Metal—Extra Heavy. 1H 9 50 Cable Sash Chains. Steel.....List Net Plus 15%	Quilt Frame. No. 30 Ball and Socket, 2½" head, per gross \$13 00 No. 50 Ball and Socket, 3½" head, per gross 14 50 Hose. Sherman's, brass, ¾", per doz. \$0.48 Double, brass, ¾", per doz. 1 20 Saw Filers. Wentworth's, No. 1, \$12.50; No. 2, \$18.25; No. 3, \$16.25. CLAWS, TACK. Wood hdl. No. 10, per doz. \$0 95 Forged steel, wood hdl. " 1 75 Solid steel, " 2 40 Giant 50 CLEANERS. Drain. Iwan's Adjustable 25% Iwan's Stationary 30% Pot. Wire per doz. \$0 75 CLEAVERS. Family. Beatty's, inch, 7 8 9 10 Per doz. \$27 00 29 00 33 00 36 00 CLEAVISES. Malleable 10c lb. CLIPPERS. Bolt \$2 25&6 00 CLIPS. Axle 65¢ & 5% Damper. Standard per doz. 70c Troy 35c Hame " 50c COLLARS, STOVE PIPE. Lacquered. Inches 5 6 7 Fancy pattern, per doz. 80c 85c \$1 15 COMPASSES. Carpenters' 15% COPPER—See Metals COPPERS—Soldering. Pointed Roofing. 3 lb and heavier, per lb. 37c 2 lb. 38c 2½ lb. 37c 1½ lb. 40c 1 lb. 43c CORD. Picture. White Wire 60&5% Sash. Sampson Spot, No. 7, per doz. \$24 50 Sampson Spot, No. 7, per doz. \$29 40 COTTERS, SPRING All sizes \$7½% COUPLINGS, HOSE. Brass per doz. \$3 25 CRADLES, GRAIN. Morgan's Grapevine per doz. \$45 00	DAMPERS, STOVE PIPE. Diamond. All sizes, 40% from New List DIES AND STOCKS. Discount New List DIGGERS. Post Hole. Eureka per doz. \$14 50 Iwan's Split Handle (Eu- reka) 4-ft. Handle, per doz. 15 00 7-ft. " per doz. 20 00 Iwan's Perfection (Atlas) per doz. 16 50 Iwan's Hercules pattern per doz. 18 00 See also Augers—Post Hole. Dividers, Wing 25% DOOR CHECKS—See Checks DOOR HANGERS—See Hangers DRILLS. Blacksmiths' Twist. (New List) 40% Brent. Millers Falls No. 12, each \$46 00 " " 112, " 26 00 Hand. Goodell's Automatic. Nos. 01 03 Per doz. 12 00 14 40 Goodell's Single Gear, per doz. 15 75 Goodell-Pratt No. 4½, per doz. list, less 30% Goodell-Pratt No. 379, per doz. list, less 30% Reciprocating. Goodell's per doz. 26 00 DRIVERS, SCREW. Standard Nets Lock Ferrule " Champion " Champion Pattern " Clark's Interchangeable " Edison " Reed's Lightning " Goodell's Spiral " Yankee Ratchet " " Spiral " EAVES TROUGH. 60 & 7½% off Standard List. ELBOWS—Stove Pipe. 1-piece Corrugated, Uniform Doz. 6-inch \$2 35 6-inch 2 30 7-inch 2 60 Uniform, Collar Adjustable, Doz. 6-inch \$2 65 6-inch 2 70 7-inch 3 00
BOXES. Mail. No. 2 4 10 Per doz. \$18 00 23 00 25 00 Mitre. Stanley's Net Prices Stearns, No. 2, per doz. \$48 00 BRACES, RATCHET. Goodell-Pratt No. 408 \$4 60 " " No. 410 4 80 " " No. 412 5 00 V. & B. No. 444 8 in. \$4.65 V. & B. No. 333 8 in. 4 30 V. & B. No. 222 8 in. 4 00 V. & B. No. 111 8 in. 3 50 V. & B. No. 11 8 in. 3 05 BURRS, RIVETING. Copper Burrs only, 25% above list Tinners' Iron Burrs only, 30% BUTTS. Cast Iron 7½% Wrought Bronze, No. 175 AC 2½ \$1 75 Steel, Bright, Narrow 15-7½-5% Steel, Japanned, Narrow List +65% CALIPERS. Double Nets Inside and Outside " Wing " CALKS. Logger's Boot. (Lufkin R. Co's.), per M. \$7 00 Toe. Blunt and medium, 1 prong per 100 lbs. \$6 20 Sharp, 1 prong, per 100 lbs. 6 70 CANS. Milk. Ohio. Gals. 5 8 10 Each \$3 65 \$4 45 \$4 70 Gem. Gals. 5 8 10 Each \$3 85 \$4 95 \$5 20 Jersey. Gals. 5 8 10 Each \$4 15 \$5 60 \$5 90 Holstein. Gals. 5 8 10 Each \$4 15 \$5 60 \$5 90 CAN OPENERS. See Openers. CAPS, GUN. See Ammunition.	CHIMNEY TOPS. In bags per bag \$1 70 CHECKS, DOOR. Corbin Net List Russwin 20% CHISELS. Cold. Good quality, ¾ in., each \$0 49 " ¾ in., " 0 32 Diamond Point. V. & B. No. 15, ¾ in. 0 37 V. & B. No. 15, ½ in. 0 60 FIRMER BEVELLED. Berg's (Swedish). ¾-inch, per doz. \$4 45 1- " " 7 15 1½- " " 10 15 2- " " 17 15 2½- " " 26 95 Round Nose. V. & B. No. 85, ¾ in. 0 37 V. & B. No. 65, ½ in. 0 49 SOCKET FIRMER. Berg's (Swedish). ¾-inch, per doz. \$11 95 1- " " 16 75 1½- " " 23 95 2- " " 35 95 Cape. V. & B. No. 56, ¾ in. 0 29 V. & B. No. 50, ¾ in. 0 71 CHUCKS, DRILL. Goodell's, for Goodell's Screw Drivers List less 35-40% Yankee, for Yankee Screw Drivers \$6 00	CRAYONS—See CASE. CUTTERS Glass, Woodward 40% Meat. Enterprise—Nox. 5 10 12 Each. +\$2 50 \$4 25 \$3 75 Nox. 22 32 " 6 50 8 50 Pipe. Saunders', No. 1 2 3 Each \$1 85 2 75 6 75 Slaw and Kraut. Per doz. 4-knife Kraut. \$20 00-55 00 3-knife Kraut, 8x27 in. 13 00-18 00 1-knife Slaw 3 50 2-knife Slaw 3 00 Washer 11 00 DAMPERS, STOVE PIPE. Diamond. All sizes, 40% from New List DIES AND STOCKS. Discount New List DIGGERS. Post Hole. Eureka per doz. \$14 50 Iwan's Split Handle (Eu- reka) 4-ft. Handle, per doz. 15 00 7-ft. " per doz. 20 00 Iwan's Perfection (Atlas) per doz. 16 50 Iwan's Hercules pattern per doz. 18 00 See also Augers—Post Hole. Dividers, Wing 25% DOOR CHECKS—See Checks DOOR HANGERS—See Hangers DRILLS. Blacksmiths' Twist. (New List) 40% Brent. Millers Falls No. 12, each \$46 00 " " 112, " 26 00 Hand. Goodell's Automatic. Nos. 01 03 Per doz. 12 00 14 40 Goodell's Single Gear, per doz. 15 75 Goodell-Pratt No. 4½, per doz. list, less 30% Goodell-Pratt No. 379, per doz. list, less 30% Reciprocating. Goodell's per doz. 26 00 DRIVERS, SCREW. Standard Nets Lock Ferrule " Champion " Champion Pattern " Clark's Interchangeable " Edison " Reed's Lightning " Goodell's Spiral " Yankee Ratchet " " Spiral " EAVES TROUGH. 60 & 7½% off Standard List. ELBOWS—Stove Pipe. 1-piece Corrugated, Uniform Doz. 6-inch \$2 35 6-inch 2 30 7-inch 2 60 Uniform, Collar Adjustable, Doz. 6-inch \$2 65 6-inch 2 70 7-inch 3 00	CRAYONS—See CASE. CUTTERS Glass, Woodward 40% Meat. Enterprise—Nox. 5 10 12 Each. +\$2 50 \$4 25 \$3 75 Nox. 22 32 " 6 50 8 50 Pipe. Saunders', No. 1 2 3 Each \$1 85 2 75 6 75 Slaw and Kraut. Per doz. 4-knife Kraut. \$20 00-55 00 3-knife Kraut, 8x27 in. 13 00-18 00 1-knife Slaw 3 50 2-knife Slaw 3 00 Washer 11 00 DAMPERS, STOVE PIPE. Diamond. All sizes, 40% from New List DIES AND STOCKS. Discount New List DIGGERS. Post Hole. Eureka per doz. \$14 50 Iwan's Split Handle (Eu- reka) 4-ft. Handle, per doz. 15 00 7-ft. " per doz. 20 00 Iwan's Perfection (Atlas) per doz. 16 50 Iwan's Hercules pattern per doz. 18 00 See also Augers—Post Hole. Dividers, Wing 25% DOOR CHECKS—See Checks DOOR HANGERS—See Hangers DRILLS. Blacksmiths' Twist. (New List) 40% Brent. Millers Falls No. 12, each \$46 00 " " 112, " 26 00 Hand. Goodell's Automatic. Nos. 01 03 Per doz. 12 00 14 40 Goodell's Single Gear, per doz. 15 75 Goodell-Pratt No. 4½, per doz. list, less 30% Goodell-Pratt No. 379, per doz. list, less 30% Reciprocating. Goodell's per doz. 26 00 DRIVERS, SCREW. Standard Nets Lock Ferrule " Champion " Champion Pattern " Clark's Interchangeable " Edison " Reed's Lightning " Goodell's Spiral " Yankee Ratchet " " Spiral " EAVES TROUGH. 60 & 7½% off Standard List. ELBOWS—Stove Pipe. 1-piece Corrugated, Uniform Doz. 6-inch \$2 35 6-inch 2 30 7-inch 2 60 Uniform, Collar Adjustable, Doz. 6-inch \$2 65 6-inch 2 70 7-inch 3 00

ELBOWS—Conductor Pipe. Galvanized Steel, Tin and Terne, Round Corrugated. Size. Doz. 2-inch 50% 3-inch 50% 4-inch 50% 5-inch 50% 6-inch 50%	Wood Falls. Fraser's, 15 lb. \$1.00; 25 lb. \$1.50 each. Hub Lightning, 15 lb. 90c; 25 lb. \$1.21 each. Tin Cans. Fraser's 1 1/2 lb. per doz.....\$1 75 3 lb. per doz..... 3 25	HANGERS. Barn Door. U. S. Roller Bearing.....12 1/4% Matchless12 1/4% Warehouse Tandem, No. 4433 1/4% Conductor P. Iwan's Perfection.....45% Eaves Trough. All sizes, 5" or smaller, per gross \$3 80 Net All sizes, larger than 5"per gross 5 00 " Garage Door. Right Angle50&10% Sliding Folding50% Receding50% Parlor Door. Acmeper set, \$3 75 Ives' Improved.... " 3 40 Lane's Standard... " 3 50 Lane's New Model " 3 10 Le Roy Noiseless.....40&10% Richards25% Advance40&10%	Box. No. 9 10 13 Each 0 33 0 85 0 40 Bush. Common Axe Handle, per doz.\$22 00 Chain. Inch... 1/4&5/16 3/4 7/16 1/2 Pr 100 \$7 60-8 10 9 75 11 50 12 60 Clothes Line. Japannedper doz. 48c@1 40 Galvanized.... " 75c@2 50 Coat and Hat. Common Wire per gro. 1 25-1 45 Conductor. Iwan's Tinned Sickle.....List Corn. Common, riveted, painted redper doz. Nets Little Giant..... " " Gate. See Goods, Bright Wire. Grass. Common Nos. 1 3 5 7 Per Doz...\$4 50 3 50 3 75 3 25 Hammock. With plate.....per doz. 1 10 With screw..... " 1 00 Lambrequin, or Drapery, per gro.20c Picture50%&50&10% Potato and ManureNets Screw. Brass70% (See Goods, Bright Wire.) Seat Spring.....per lb. 1/4c
ENAMEL, STOVE. Iron, Black. Per Gross Peerless Gloss, 1/4 pt.\$16 20 " " 1/2 pt. 31 00 " " 1/2 gal.\$12 00 " " 1 gal. 21 00 Aluminum Per Gross Peerless, 1/4 pt.\$42 60 " 1/2 pt. 61 20	GRINDSTONES. Family. Inches.. 7 8 10 12 Per doz. 20 50 21 75 26 25 30 50 Mounted. Ball Bearing.. 1 2 3 Each\$4 75 5 00 5 25	HASPS. Hinge, Wrought...Add 50% to list With Staples—See Staples. HATCHETS. Plumbs, Claw No. 1.....\$1 65 Cast Claw, per doz... 1 50@ 1 85 Cast Shingling " 1 50@ 1 85 Germantown7 1/2% Plumbs, Octagon, Half.....\$2 00 Plumbs, Broad, No. 1..... 1 90 Plumbs, Lathing No. 1..... 1 50 HAY KNIVES. See Knives. HAY RACK BRACKETS. Wenzleman's No. 1 per doz. sets \$18 00 Wenzleman's No. 2 per doz. sets, 19 20 HINGES. Blind. Clark's Gravity No. 1.....per doz. sets, \$2 25 No. 3..... " " 5 75 Gate. Clark's 1 2 3 Hgs & Lch, dz. \$5 50 7 00 9 75 Hinges only " 4 75 5 50 8 00 Latches only, 1 90 1 90 Screen Door. 1751—3x3doz. \$3 30 1753—2 1/2x2 1/2 " 2 15 Spring. ChicagoAdd 12 1/4% to list Columbia Dbl. Acting, 40&10&5% Gem25% Ideal Detachable, per gro. \$11 00 Matchless40% New Ideaper gro. \$7 20 Oxford20% Wrought Iron. Per 100 pairs with screws: Light Strap Hinges, No. 3 \$13 20 Heavy Strap Hinges, No. 4 16 50 Light T Hinges.....No. 3 13 60 Heavy T Hinges.....No. 4 20 60 Extra Heavy T Hinges,No. 4 22 50 Screw Hook and Strap. 6 to 12 in....per 100 lbs. \$7 75 14 to 20 in.... " 7 50 22 to 36 in.... " 7 25 Screw Hook and Eye. 1/4 in.....per doz. pair \$2 00 1/2 in..... " 3 50 3/4 in..... " 5 00	GUN WADS. (See Ammunition) GUNS. Iver Johnson Champion Single Barrel Shot Guns...Net Prices Double Barrel, Hammer- less " HAFTS, AWL. Brad. Commonper doz. \$0 35 Patent, plain top.. " 80 Patent, leather top " 90 Sewing. Common " 24 Patent " 55 HAMMERS, HANDLED. each, net Blacksmiths, Hand, No. 0, 26 oz.\$1 35 Engineers', No. 1, 26 oz.... 1 35 Farriers', No. 7, 7 oz..... 1 41 Machinists', No. 1, 7 oz.... 1 06 Nail. Vanadium, No. 4 1/2, 16 oz., each\$2 00 V. & B., No. 11 1/2, 16 oz., each 1 60 Garden City, No. 11 1/2, 16 oz., each 1 35 Tinner's Riveting, No. 1, 8 oz., each 1 10 Shoe, Steel, No. 1, 13 oz. each 1 00 Tack Magnetic No. 6, each..... 1 00 HAMMERS, HEAVY. Farriers'20% Mason'. Single and Double Face...50%
EMERY. Domestic, lb.11 1/2c EYES. Bright Wire Screw—See Woods, B. W. Drifting Pick60, 10 & 5% Hooks and Eyes— Brass, 1 1/2" No. 60, per gross\$3 50 Iron, 1 1/2" No. 50, per gross 1 60 FASTENERS, STORM SASH. Shroeder'sper doz \$1 50 Sensible " 3 00	FILES AND RASPS. Delta Delta30% SwissList plus 25% Utility " net. Nicholson's— American50-7 1/2% Arcade50-7 1/2% Black Diamond40% Eagle50-7 1/2% Great Western50-7 1/2% Kearney & Foot.....50-7 1/2% McClellan50-7 1/2% Nicholson brand40% J. Barton Smith.....50&7 1/2% X-F Swiss Pattern...List+10% Simonds'50% Dimson's50% Heller's (American).....50&10% Swiss5% Horse75%	HOES. GardenNet HOOKS. Awning, No. 60.....per gro. 50% Belt. Brown's70&5% Jones'55&5% Bench. See Stops, Bench.	HUSKERS. Boss. Nos. B E Per doz.....New Nets No. 59.....per doz. New Nets IRON, FIG. See Metals.—First column. Plane. Wood Bench...Add 10% to list Sad. Charcoalper doz. \$11 00 Common, polished, per 100 lbs. 7 75 No. 70 Asbestos.....\$1 50 net No. 100 " 1 75 net Common, nickel' plated.... 2 25 Mrs. Pott's, No. 50 J, Enterprise, per set Nets No. 55 J., " " " No. 50 T, " " " No. 55 T, " " " Tailors' Sad.....per lb. " Tailors' Goose.....per lb. " Ideal. 6 lb. Household.....\$3 50 9 lb. Dressmakers' 4 25 14 lb. Tailors' Goose..... 5 50 Fuyers. Single Duck Nest..per doz. \$5 25 Double Duck Nest.. " 6 25 Suttoneach 2 60 JACKS. Locomotive30% Wagon. Richard's No. 1..per doz. \$15 50 Miller 20 00 Oliver, Nos. 0 00 Each\$0 60 \$0 80 Standard, Nos. 1 20 Each\$0 60 \$1 00 R-W Big Lift40% Tiger40% KETTLES. Brass15% Cauldron40&5% Copperper lb. 27 Maslin40&10% Sugar50%
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KNIVES.

Beet Topping.	
Clyde, 9-in. Scimitar Blade,	
doz.	\$3 85
California	2 40
Butcher, Per doz.	
Beechwood Handles, 6"	
blade	\$4 00
Beechwood Handles, 7"	
blade	4 65
Beechwood Handles, 8"	
blade	5 65
Cooper's Hoop	15%
Corn.	
Clipper	per doz. \$1 75
Disston's	" 2 75
Earle's	" 3 00
Woodford	" 2 25

Drawing.	
Standard	List & 5%
Adjustable	15%
Barton's Carpenters'	15%

Hay.	
Iwan's Solid Socket..doz.	13 00
Heath's	" 13 00
Iwan's, Sickle Edge..	" 18 00
Iwan's Imp'd Serrated "	" 18 00

Hedge.	
Challenge	per doz. \$6 00
Disston's	" 3 75

Mincing.	
Common, Single ..	" 60
Common, Double..	" 90
Streeter, 4-blade..	" 1 30
Streeter, 6-blade..	" 2 00

Patty.	
Common ..per doz.	\$0 75 @ 1 50
Landers	" 1 75 @ 2 50

Scraping.	
Beech Handle	90 @ 1 10
Landers	5 50 @ 6 50

KNOBS.

Door.	
Mineral	per doz. \$1 80
Porcelain	" 1 90
Jet	" 2 00

LADDERS

Common Long.	
Per ft.	17c @ 23c
Extension.	
Per ft.	22 to 28
Step.	
Common, per ft.	23c
Common, with Shelf, add 10c.	
IXL	34c
Challenge, 6 to 9 ft.	55c
10 to 16 ft.	60c

LANTERNS.

Bull's Eye Police.	
3-in. Flash Light per doz.	\$12 00

LEADERS, CATTLE.

Nos.	51 52
Per doz.	\$1 35 1 45

LEATHER, LACE

Rawhide 3/4"	100 ft. \$2 60
" 1/2"	" 4 40

LEATHERS, PUMP.

Valve and Plunger	10%
-------------------------	-----

LEVELS.

Disston, No. 28 Asst.	\$32 05
" No. 18, 20 in.	21 90
" No. 22, 24 in.	22 90
" Shafting, 6 in.	19 80
" " 6 in. gr. glass 24 20	
" No. 1 Asst.	5 75
" No. 10, 12 in.	6 75
" No. 14, 16 in.	6 25
" No. 9 Asst.	12 40
" 24-26 in.	13 40
" 28-30 in.	13 10

LIFTERS.

Stove Cover.	
Coppers' Super gro. \$3 25 @ 5 50	
Alaska	" 8 00
Alaska	" 10 00
Transom.	
Payson's	55%

HOG LINES.

Clothes.	
60-ft. Jute	per doz. \$0 95
60-ft. Sisal	" 40
50-ft. Cotton	" 35
50-ft. Braided Cot-	
ton	25

LINING, STOVE.

Bricks	per crate 42c
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LOCKS

Barn Door.	
No. 60 Stearns...per doz.	\$12 00
No. 80 "	" 24 00

MACHINES.

Riveting.	
Stearns No. 1...per doz.	\$16 00
Tenoning.	
No. 50 Peace's Spoke, each	\$16 00

MAIL BOXES.

See Boxes.

MALLET.

Carpenters'.	
Fibre Head, No. 2 per doz.	\$16 50
" No. 3 " ..	19 50
" No. 4 " ..	28 50

Round Hickory	
.....per doz.	\$3 00—5 00
Round Lig-	
numvitae.. " ..	6 25—10 50
Square Hickory "	3 50—5 50
Square Lig-	
numvitae.. " ..	8 00—12 00

Tinners'.	
Hickory	per doz. \$2 25

MATS.

Door.	
National Rigid	5 & 10 & 5%
Acme Steel Flexible	50%

Stove.	
No. 2	per gro. Nets
No. 1	" "
No. 1 Asbestos Toasters or	
wire-covered Stove Mats,	
with handle....per doz.	1 10
No. 2 Asbestos Toasters,	
with ring.....per doz.	60

MATTOCKS.

Plumbs	25%
--------------	-----

MAULS.

Wood Choppers'.	
Lake Superior & Oregon	
pat.	40 & 5%

MEASURES.

Galvanized, doz.	Nets
Japanned, doz.	Nets

MILLS, COFFEE.

Enterprise	16%
Parker	50 & 5%
Arcade	40-10%

MITRE BOXES.

See Boxes.

MOPS.

Cotton, Star (Cut Ends).	
Pounds 12' 15' 18' 24'-3 oz.	
Per doz. \$4 50 5 65 6 75 9 00	

NAILS

Cut Steel	\$4 45
Cut Iron	4 45
Wire.	
Common	4 45
Cement Coated.	
Small Lots	4 20

Horseshoe.	
Ausable	55 & 5%
Capewell	15%
Perfect	55 & 5%
Putnam	20 & 5%
Star	30 & 5%

Picture.	
Brass Heads	35%
Brads	50 & 5%
Furniture	List plus 15%

NAIL PULLERS.

See Pullers.	
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NAIL SETS.

See Sets.

NETTING, POULTRY.

Galvanized before weaving...	50%
Galvanized after weaving...	40%

NIPPERS.

End Cutting.	
Berg's (Swedish) In. 5	6
Per dozen	\$12 60 15 20

End and Diagonal Cutting.	
Berg's (Swedish) In. 5	6
Per dozen	\$10 05 13 00

Hoof.	
Heller's	40 & 10%
V. & B., No. 52, each....	\$3 25

NOZZLES.

Hose.	
Magic	per doz. \$9 50
Diamond	" 5 75

NUTS, HOT PRESSED.

Squar Tapped.	
\$1 85 off per 100 lbs.	
Hexagon Tapped.	
\$1.85 off per 100 lbs.	

OILERS.

Chase Pattern.	
Brass and Copper	10%
Zinc	20%

Railroad.	
Coppered	33 1/4%

Steel.	
Copper Plated	50-10-5%

OPENERS.

Box.	
See Box Chisels.	

Can.	
Delmonico	per doz. \$1 20
Never Slip	" 65

Crate.	
V. & B.per doz.	\$7 25-11 00

OUTFITS, COBBLING.

Combination	per doz. \$16 00
Economy	" 8 50
Family	" 14 50

PAIS.

Cream.	
14-qt. without gauge,	
.....per doz.	\$9 50
18-qt. without gauge,	
.....per doz.	11 00
20-qt. without gauge,	
.....per doz.	11 75

Sap.	
10-qt., IC Tin....per doz.	\$4 00
12 " "	5 50

Stock.	
Galv. qts. 14 16 18 20	
Per doz. \$9 75 10 75 12 75 14 50	

Water.	
Galvanized qts. 10 12 14	
Per doz.	\$5 75 6 50 7 25

Wood.	
Cable, 2-Hoop....per doz.	Nets
Cable, 3-Hoop....	" Nets
Cedar, 3-Hoop, brass "	" Nets

FANS.

Dripping	Net
Fry.	
Common	Nets
Acme	"

Roasting.	
Paxton.	
Nos. 1 2 3 4	
Per doz.	Nets
Neverburn	"
Savory, No. 200...per doz.	\$3 40

PAPEL.

Roofing.	
Major, 1-ply	per square \$1 82
" 2-ply	2 24
" 3-ply	2 65
Red Rosin.....per ton	\$111 45

Sand and Emery.	
No. 1, per ream, best grade	\$5 40
No. 1, per ream, cheaper	"
grade	4 85

PAILERS.

Apple.	
Goodell's	per doz. \$10 80
Turntable	" 11 40
White Mountain ..	" 8 40
Reading No. 73 ..	" 11 40

Potato.	
Goodell's Saratoga, 10 1/2	
in, doz.	6 50
Goodell's Saratoga, 5 in.,	
doz.	5 50

PICKS.

Adze Eye Ore.....	23 1/2%
Drifting and Poll Picks.....	23 1/2%
Plumbs, Railroad	23 1/2%
Surface	23 1/2%

PINCERS.

Carpenters', cast steel,	
No. 6 8 10 12	
Each ..\$0 62 .80 1 05 1 15	
Blacksmiths', No. 10	1 07
Heller's	List plus 10%

PINS.

Clothes.	
Common, per box of 5 grs.	\$0 95

Picket.	
Fluter, 15-in....per doz.	\$1 10
Fluted, 21-in....	" 1 40
Spiral	" 1 90

PIPE.

Conductor.	
Plain Round and Round Corru-	
gated.	
29 Gauge	50%
28 "	40%
26 "	35%
24 "	10%

Square Corrugated A and B and	
Octagon.	
29 Gauge	40%
28 "	35%
26 "	25%

Galvanized Toncan Metal, Genu-	
ine O. H. Iron, Lyonore Metal,	
Charcoal Iron and Keystone	
C. B.	

Plain Round and Round Corru-	
gated.	
28 Gauge	40%
26 "	30%
24 "	List

Square Corrugated A and B Pol-	
YGON and Octagon.	
28 Gauge	35%
26 "	25%
24 "	List
14 and 16-oz. Copper, all de-	
signs	List

Portico Elbows.	
Galvanized and Terne Steel.	
1 -inch	35%
1 1/4 -inch	35%
1 1/2 -inch	35%
2 -inch	25%

Discounts on Round apply on	
sizes 2-inch to 6-inch, inclusive.	
Freight allowed on 15 dozen or	
more, to all points where	
freight rate does not exceed	
\$1.00 per 100 lbs. Less than	
15 dozen F. O. B. Factory.	

Terms 30 days net, 2% ten days.	
Standard Gauge Conductor Pipe,	
plain or corrugated.	

Not Nested	50%
Nested solid	50 & 5%

Store	
Per 100	
29 Gauge, 3-inch.....	\$19 00
" 4-inch.....	19 50
" 5-inch.....	20 25
" 6-inch.....	21 00
" 7-inch.....	22 00

T-Joint Made up.	
6-inch	per 100 \$60 00

Furnace Pipe.	
Double Wall Pipe and Fit-	
tings	30%
Single Wall Pipe, Round	
Pipe Fittings	30%
Galvanized and Black Iron	
Pipe, Shoes, etc.	30%

PLANES.

Stanley Iron Bench.....	Net
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PLATE, TIN.

See Metals in Column 1.

PLIERS.

V. & B. No. 6	each 0 64
" No. 7 Gas	0 67
" Double Duty 106.....	0 62
" Nut, No. 3.....	0 70

Lineman's Side Cutting. Berg's (Swedish). In. 6 7 8 Blk. Pol. Face, doz. \$16 70 20 00 23 35	PUNCHES. Conductors. No. 22per doz. \$3 00 Machineper lb. 25 Saddlers. Common...per doz. 1 50 to 5 00	SAWS. Band. Diaston's 2-in. to 18-in. 10&5% " 1/4-in to 1 1/4-in...20&10% Butchers. Diaston's No. 2, 14-in.... 13 20 " No. 2, 18-in.... 19 50 " No. 2, 22-in.... 20 85 " No. 7, 16-in.... 20 00 " No. 7, 20-in.... 21 35 " No. 7, 24-in.... 23 35 " No. 7, 28-in.... 26 00	SETS. Nail. Square head.....per doz. 1 84 Cup point, knurled " 1 78 Rivet. Farmers'per doz. 2 50 Tinnerns' 3-4 5 75 " 00-0 8 75
Long Nose Side Cutting. Berg's (Swedish) In. 5 6 Blk. Pol. Face, doz. \$12 25 15 20	Revolving Spring. Stearns, No. 10...per doz. \$3 00 " No. 40... " 16 00 " No. 60... " 19 00	Compass. Diaston's No. 20 Jackson... 4 30 " No. 40 Sampson 2 40 " No. 277, 10-in... 6 70 " No. 9, 10-in... 7 70	Saw. Aiken's Pattern...per doz. \$6 50 Diaston's Monarch " 7 20 Diaston's X-cut... " 13 50 Leach's " 80 Nash's Hand " 2 15 Nash's X-cut " 4 20 Stillman's Lever... " 1 30 Stillman's X-cut " 2 50 Whiting Pattern, " 7 50 No. 21..... " 7 50
Flat and Round Nose. Berg's (Swedish) Flat, In. 4 6 8 Blk. Pol. Face, Doz. \$3 90 13 35 19 65 Berg's (Swedish) Round, In. 4 6 8 Blk. Pol. Face, Doz. \$11 15 16 30 23 35	PUTTY. Strictly pure...per 100 lbs. \$6 00 RAIL. Barn Door. Matchless, 1-in..... 5c Matchless, 1 1/4-in..... 7c Storm King 5c	Cross-Cut. Diaston's No. 289, 4-ft.... 3 50 " No. 289, 6-ft.... 6 85 " No. 289, 8-ft.... 11 85	Eccentric Anvil, Hand No. 395, N. P. Morrill Pat- tern " 14 50
PLUMBS AND LEVELS. See Levels.	Sliding Door. Bronzed wrought iron,per ft. 8 1/4c	Flooring. Diaston's D19, 16-in..... 27 15 " D19, 20-in..... 34 35	SHARPENERS, SKATE. Diamondper doz. \$1 60 Perfect 1 20
POINTERS, SPOKE. Stearns' No. 1....per doz. \$10 00 " No. 2.... " 12 00	RAKES. Per doz. Steel, Bow, 12-in. Teeth \$8 50 Steel, Bow, 14-inch " 9 25 Malleable Iron, 12-in. " 4 75 Malleable Iron, 14-in. " 5 00	Hand and Rip. Diaston's No. 7, 30-in.... 38 50 " No. 7, 32-in.... 43 90 " No. 8, 16-in.... 21 35 " No. 8, 20-in.... 25 15 " No. 8, 24-in.... 29 60 " No. 8, 28-in.... 35 45 " No. 8, 30-in.... 39 90	SHEARS. Per Doz. Nickel Plated, Straight, 6" \$12 90 " " 7" 14 85 " " 8" 16 30 Japanned, Straight " 11 00 " " 7" 12 40 " " 8" 13 30
POKERS, STOVE. Wrt Steel, str't or bent,per doz. \$0 75 Nickel Plated, coll han'l's " 1 10	Hay. Wood, 10 Teeth.....\$4 00 Lawn. 20 Teethper doz. 5 50	Keystone.New Nets Keyhole. Diaston's No. 5..... 3 85 " No. 10..... 4 00 " No. 95..... 6 30	TINNERS'—See Snips. SHEAVES, SLIDING DOOR. Common. Inches 3 4 5 Per set.....\$1 40 1 75 2 40 Hatfield's. Per set \$1 80 2 10 2 75 25
POLISH. Metal. Wizard, 6 -oz.. per gross \$21 00 " 1/2-pt. " " 24 00 " 1/4-gal. " " 12 00 " 1 -gal. " " 21 00	RASPS—See Files. RAZORS—SAFETY. Gilletteper doz. \$45 00 Auto Strop 45 00 Gem 8 40 Gem (3 doz. lots) " 3 00 Ever Ready 8 40 Ever Ready (3 doz. lots) " 8 00	Miter Box. Diaston's No. 4, 4x20-in... 36 15 " No. 4, 6x22-in... 43 25 " No. 4, 6x22-in... 47 20 Patternmakers. Diaston's 7 1/2-in..... 12 05	Pruning. Diaston's No. 20..... 20 80 Stairbuilders. Diaston's 6-in. 7 90
Stove. Per gross Black Eagle Paste 5 -oz. \$19 20 " " 1/2-lb. 21 60 Black Eagle Liquid, 6-oz. per gross 16 20 Black Kid Paste, 5-oz. per case 19 30 Black Kid Paste, 1/2-lb.. 21 60 Black Jack Liquid, 1/2-pt. per gross 18 20 Black Kid Liquid, 1/2-pt.. 24 00 Black Jack Paste, No. 10 per gross 16 20	RAZOR STROPS Star (Honing)50% REGISTERS. Cast IronList Steel and Semi-Steel.....10% Solid Brass or Bronze Metalprices on application Baseboard10% Adjustable Ceiling Ventilators 10%	Patternmakers. Diaston's 7 1/2-in..... 12 05 Pruning. Diaston's No. 20..... 20 80 Stairbuilders. Diaston's 6-in. 7 90	SHIELDS. Expansion Bolt Shields.....60% Shoes. Conductor60%
POWDER. See Ammunition.	REGISTER FACES. Japanned, Bronzed and Plated. 4x6 to 14x14.....10% 14x14 to 38x42.....25% REVOLVERS. Iver Johnson Safety Automatic HammerNew Nets Hammerless I. J. Model 1900.....	SAW FRAMES. Common, plain...per doz. \$1 50 Common, painted... " 2 10	SCISSORS. Star60% SCOOPS Hubbard Western Pattern Riveted. Size.. A B C D 1 ..\$16 75 16 00 15 25 14 45 4 .. 17 85 17 10 16 35 15 60 6 .. 18 65 17 85 17 10 16 35
PRESSES, FRUIT AND JELLY. Enterprise Manufacturing Co. 25%	RINGS AND RINGERS. Bull. Copper2 1/2-in. 3-in. Per doz.\$2 40 \$2 65 Rea's Improved Self- Piercing copper, doz. 3 40 Steel, per doz..... 1 50 1 80 Hog. Blair's Rings.....per doz. \$ 75 Blair's Ringers.. " 1 00 Brown's Ringers.. " 72 Brown's Ringers " 1 00 Hill's Ringers... " 1 00 Hill's Ring, boxes " 72 Major Ringers.. " 60 Perfect Ringers " 1 50 Wolverine Rings " 1 65 Wolverine Ringers " 1 10	SCRAPERS. Box. Triangular, No. 6 per doz. \$6 25 Road. Cubic ft. 7 5 3 With runners, ea. \$7 00 6 50 6 20	SCISSORS. Star60% SCOOPS Hubbard Western Pattern Riveted. Size.. A B C D 1 ..\$16 75 16 00 15 25 14 45 4 .. 17 85 17 10 16 35 15 60 6 .. 18 65 17 85 17 10 16 35
PRIMERS. See Ammunition.	Fullers. Daisyeach \$3 10 Phoenix " 1 40 Quick and Easy..... " 2 70	SCREEN DOOR HINGES. Cast Irongross \$13 00 Steel " 9 50	SHOVELS AND SPADES. Coal. Hubbard's No. A B C D 1 \$16 00 15 10 14 45 13 70 2 16 35 15 60 14 85 14 10 3 16 75 16 00 15 25 14 45 4 17 10 16 35 16 60 14 85
PULLEYS. Awning—Jap'd10% Clothes Line10%	PRUNERS. Diaston's Pole...per doz. \$18 00 Water's Improved..per doz. 60%	SCREWS. Bench. Iron, Ins. 1 1 1/4 1 1/4 \$6 82 \$7 87 9 45 16 80 Wood, white maple, per doz. 6 00 Hand—Wood50% Hand Rail32% Jack20% Lag or Coach—all sizes, gimlet pointed45-50% Saw—Centennial. Nos. 1 2 3 4 Per doz....47c 55c 75c 90c	SHOES. Conductor60% SHOT—See Ammunition. SHOVELS AND SPADES. Coal. Hubbard's No. A B C D 1 \$16 00 15 10 14 45 13 70 2 16 35 15 60 14 85 14 10 3 16 75 16 00 15 25 14 45 4 17 10 16 35 16 60 14 85
SPRAYS. Midget Junior...per doz. \$3 75 New Misty " 6 00 Crescent " 6 50	ROPE. Cotton. 1/4, 5-16 in. Com. on reels, per lb.83c 1/4, 5-16 in. Com. in coils, per lb.83c Sisal. 1st Quality16 1/2c to 17 1/2c No. 214 1/2c to 15 1/2c Pure Manila. 1st Quality, base per lb.25 1/2c to 26 1/2c Hardware Grade, per lb24 1/2c to 25 1/2c	SCYTHES. Clipper, Grass ...per doz. \$13 50 Honest Dutchman... " 13 00	SINKS. Cast Iron. Painted, 16x24.....Net Enamelled, White, 16x24... " Wrought Steel. Painted, 16x24 " SLEDGES—See Hammers. SNAPS, HARNESS. Covered Spring.....Add 30% Judd's Pattern Add 33 1-6% to list
PUMPS. Midget Junior...per doz. \$3 75 New Misty " 6 00 Crescent " 6 50	RIVET SETS. See Sets.	SCYTHES. Clipper, Grass ...per doz. \$13 50 Honest Dutchman... " 13 00	SNATHS. Double Ring, Bush...per doz. \$9 75 Patent Loop, Bush... " 10 00 Patent Loop, Grass... " 8 75 SNIPS, TINNERS'. Clover Leaf.....40&10% National40&10% Star50% SOLDER—See Metals. SPRINGS, DOOR Perfect. Nos. 2 3 4 5 6 7 Per doz..55c 60c 65c 75c 90c 1 00 Reliance. Light Medium Heavy Per doz...\$1 55 2 10 3 20 Torrey'sper doz. 1 65

SPRINKLERS, LAWN.

Stearn's No. 1....per doz. \$11 50

SQUARES.

Steel and Iron.....Nets new list
(Add for bluing, \$3.00 per doz. net)
Mitre
Try
Try and Bevel
Try and Mitre

Fox'sper doz. \$5 00
Winterbottom's10%

SQUEEZERS, LEMON.

Common Woodper doz. \$0 70
Porcelain Lined, Wood1 25
Boss, malleable iron1 20
Iron frame, porc'n
bowl1 90
Iron frame, glass
bowl2 35
Little Giant, tin'd
iron4 00
Drum, japanned3 60
Drum, nickel plated4 50

STAPLES.

Blind
Barbedper lb. 21@22c
Butter, Tub16@19c
Fence—
Polishedper 100 lbs. \$5 45
Galvanized6 15
Netting.
Galvanizedper 100 lbs. 6 50
Wrought.
Wrought Staples, Hasps and
Staples, Hasps, Hooks and
Staples, and Hooks and
Staples50&10%
Extra heavy35%

STEELYARD.

Discount 25%.

STONES.

Aze.
Hindustanper lb. New Nets
More Grit
Washita
Emery.
No. 125per doz. New Nets

Oil—Mounted.

Arkansas Hard
No. 7per doz. New Nets
Arkansas Soft
Washita No.
717
Oil—Unmounted.

Arkansas Hard, per lb. New Nets
Arkansas Soft
Lily White
Queer Creek
Washita

Seythe.

Black Diamond per gro. New Nets
Crescent
Green Mountain
LaMolle
Extra Quinne-
bog
Red End

STOPS, BENCH.

No. 10 Merrill pat-
ternper doz. \$11 00
No. 11 Stearns pat-
tern10 00
No. 15 Smith pattern7 00

STOPPERS, FLUE.

Commonper doz. \$1 10
Gem, flat, No. 31 00
Gem, No. 11 10

STOVE PIPE—See pipe.

STOVE BOARDS—See Boards.

STOVE POLISH—See Polish.

STRAPS.

Skateper doz. 85c&1 20

STRETCHERS.

Carpet.
Bullard'sper doz. \$3 90
Excelsior5 25
Malleable Iron70
Perfection6 30
King4 50

Wire.
O. S. Elwood, No. 1 per doz. Nets
O. S. Elwood, No. 2

SWIVELS

Malleable Ironper lb. \$0 10
Wrought Steelper gro. 4 50

TACKS.

Bill Posters' 6-oz., 25 lb. boxes.
per lb.15c
Upholsterers' 6-oz., 25-lb.
boxes, per lb.15½c

TAPES, MEASURING.

Asses' Skin.....List&40%

THERMOMETERS.

Tin Caseper doz. 80c@1 25
Wood Back\$2 00@12 00
Glass12 00

TIES.

Bale.
Single Loop, carload
lots75&7%
Single Loop, less than
car lots70&15%
Cow—See "Chains."

TOOLS, SAW.

Dianston's Universal10%

TRAPS.

Game with Chains, Per doz.
Victor No. 1\$2 01
Onelda Jump No. 12 75
Newhouse No. 16 62
Mouse and Rat, Net per gross
Out O'Sight Mouse\$8 00
" Rat15 00
" Mole100 00
No. 44 Pocket Gopher20 00
Victor Mouse2 60
Hold Fast Mouse2 60
Victor Rat11 00
Hold Fast Rat11 00
Official Rat12 50
Wood Choker Mouse, 4
Holes11 00

TROWELS.

Brick.
Clover Leaf30%
Brade's15&5%
Dianston's30%
Rose'sNet
Plasterers'.
Clover Leaf40%
Dianston's25%
W. & McP.Net

TRUCKS.

Bageach \$2 75
Warehouse or store,
No. 1, each\$24 50
No. 2, "22 50

TUBS, WASH.

Standard, Wood, Ex.
Nos.3 2 1 large
Per doz. \$9 50 11 25 12 75 15 50
Galvanized.
No.1 2 3
Per doz. ..13 75 15 95 18 60

TWINE.

ply Cotton Wrapping\$.85
" Extra Wrapping
" Hvy. Wrapping
" Wrapping on tubes
" cones
India Hemp, ½-lb. balls,
No. 4½35c
No. 635c
No. 835c
No. 13
2-ply Jute, 1½-lb. balls, lb. 49c

Seins.
Softper lb.Net
Med.
Hard
Staging, ¼-lb. ball, size 21
" " " " 24
" " " " 27
Bagging, ¼-lb. ball, size
3-ply "B" in hanks
4- " " " "
3- " " " "
3- " Silver Finish in hanks

Fodder or Lath.
130 strand

VISES.

No. 700, Hand,
Inches4½ 5 5½
Doz.\$11 15 13 00 14 85
No. 701. In.4 5 6
Doz.\$11 15 13 00 16 70
No. 1, Genuine Wentworth,
Noiseless Saw...per doz. 15 00
No. 2, Genuine Wentworth,
Noiseless Saw...per doz. 22 50
No. 3, Genuine Wentworth,
Noiseless Saw...per doz. 20 00
No. 500, All Steel Folding
Sawper doz. 16 00

WARE.

Glue Pots.
TinnedAdd 15% to list
Enameled30%

WASH BOARDS—See Boards.

WASHERS.

Standard O. G. cast iron, per
lb.3½c
Wrought steel in 5-lb. boxes,
per lb.:
In 3/16 ¼ 5/16 ¾ 1
18c 16c 15c 13c 12c
% % % % %
11½c 11c 11c 11c

WEDGES.

Axper doz. Nets
Gallingper lb. Nets
Sawper lb. 8½

WEANERS.

Fuller's, per doz. \$2 00 to \$2 50
Tyler's Safety, per
doz.1 85 to 2 40
Carroll's, per doz. 3 00 to 3 75
Hoosier, per doz. 3 50 to 4 60
Shaw Perfected.. 3 00 to 3 75

WEIGHTS.

Hitchingper lb. Nets
Sash—f. o. b. Chicago.
Ton lots, per ton\$73 00
Smaller lots, per ton75 00

WHEEL BARROWS.

No. 4 Tubular Steel@ \$10 25
Common Tray or Stave
Tray@ 5 00
Angle leg, garden@ 8 00

WHEELS.

Carborundum50%
Emery60%
Well, Ins.8 10 12
Per doz.\$5 50 7 25 8 50
12-in. heavy hoisting,
per doz.\$25 00

WIRE.

Brass.
In coilsNets
In 1-lb. spools, new list...Nets
Broom—Tinned.....Nets
Cable—Same Price as Barbed Wire
Copper.
In coilsNets
1-lb. spools, new list...Nets
Fence—Smooth. An'eald Galv'd
Nos. 6 to 9, less than
car, per 100 lbs. \$4 35 \$4 95
Hair—New list40 & 19%
Picture—In coils..80% @ 80 & 10%
In 5-lb. spools...per lb.26c

WRENCHES.

Coes Steel Handle, 6-inch...30%
" " " " 10- " 30%
" " " " 12- " 30%
Coes Knife-Handle, 6- " 30%
" " " " 8- " 30%
" " " " 10- " 30%
" " " " 12- " 30%
Coes All Patterns.....30%
Bemis & Call's:
Adjustable 8, 10%; Adjustable
8 Pipe, 10%; Briggs'
pattern30%
Combination Bright25%
Steel Handle Nut.....30%
Combination Black25&5%
Merrick Pattern30%
Knife Handle Pattern.
No. 62, Screw Wrench, List
plus30%
No. 60, Steel Handle.....30%

WRINGERS.

No. 790, Guarantee, per doz. \$66 00
No. 770, Bicycle... 64 00
No. 310, Kingston... 59 00
No. 110, Brighton... 57 00
No. 2 Old Reliable... 40 50
No. 740, Bicycle... 64 00
No. 22, Pioneer... 50 00
No. XGG Guarantee... 129 50

ADVERTISERS' INDEX

The dash (—) indicates that the advertisement does not appear in this issue.

Abbott Mfg. Co.	52
Ajax Bracket and Outlet Co.	—
American Furnace Co.	6
American Sheet & Tin Plate Co.	54
American Zinc Products Co.	51
American Steel & Wire Co.	54
Ashton Mfg. Co.	—
Auto-Wheel Coaster Co.	—
Basman Co., Inc., A. M.	—
Bemis & Call Hdwr & Tool Co.	—
Berger Brothers Co.	53
Berns Otto	52
Bertsch & Co.	54
Black Silk Stove Polish Co.	11
Brier Hill Steel Co.	51
Bullard & Gormley Co.	59
Burgess Soldering Furnace Co.	—
Burton Co., W. J.	—
Caldwell Mfg. Co.	—
Central Heating Supply Co.	—
Central Stove & Furnace Repair Co.	11
Chataworth Mfg. Co.	55
Clark-Smith Hardware Co.	52
Clayton & Lambert Mfg. Co.	52
Cleveland Castings & Pattern Co.	11
Cleveland Engineering Institute.	—
Coes Wrench Co.	56
Coleman, Allan J.	—
Co-operative Foundry Co.	—
Cope-Swift Co., Inc.	—
Corbin Sewer Corporation.	56
Cortright Metal Roofing Co.	53
Curtman Mfg. Co., F. L.	50
Danville Stove & Mfg. Co.	4
Detroit Vapor Stove Co.	—
Dieckmann Co., Ferdinand.	—
Diener Mfg. Co., Geo. W.	52
Dixton & Sons Henry	—
Double Blast Mfg. Co.	52
Dres & Krump Mfg. Co.	54
Enterprise Mfg. Co. of Pa.	57
Fanner Mfg. Co.	10
Farris Furnace Co.	—
Forest City Fdy. & Mfg. Co.	53
Friedley-Voshardt Co.	52
Gerock Bros Mfg. Co.	6
Hall-Neal Furnace Co.	—
Hammond Heating Co.	5
Harrington & King Perforating Co.	53
Hart & Cooley Co.	7
Haynes	—
Haynes-Langenberg Mfg. Co.	2
Heiler Bros. Co.	—
Hemp & Co.	54
Henry Furnace & Fdy. Co.	3
Hessler Co., H. E.	—
Hess-Snyder Co.	5
Hones, Inc., Chas. A.	52
Hoves Co., S. M.	10
Hussey & Co., C. G.	60
Huyfield Mfg. Co.	—
Independent Register & Mfg. Co.	7
Inland Steel Co.	—
International Radiator Co.	50
Johnson's Arms & Cycle Works, Iver.	—
Kimball Bros. Co.	50
Kirk-Latty Mfg. Co.	11
Lalanc & Grosjean Mfg. Co.	—
Lambeck Co., W. E.	—
Levell Mfg. Co.	55
Lufkin Rule Co.	55
Lupton's Son Co., David.	—
Magee Furnace Co.	4
Mahoning Fdy. Co.	12
Majestic Co.	—
Manly Heating Supply Co., The.	5
Marsh Lumber Co.	9
Marshalltown Mfg. Co.	54
May-Wheeler Furnace Co.	—
Meyer & Bro. Co., F.	—
Meyer Furnace Co.	—
Meyers Mfg. Co., Fred J.	50
Michigan Safety Furnace Pipe Co.	9
Milwaukee Corrugating Co.	1
Modern Way Furnace Co.	—
Monroe Fdy. & Furnace Co.	—
National Cash Register Co.	—
Nat'l Enameling & Stamping Co.	—
Nat'l Stove Repair Co.	11
Niagara Machine & Tool Works.	54
Nicholson File Co.	—
Nickel Plate Stove Polish Co.	11
North Bros. Mfg. Co.	57
Northwestern Stove Repair Co.	11
Parker Supply Co.	53
Peck, H. E.	49
Peerless Foundry Co.	—
Pittsburgh Steel Co.	52
Quick Meat Stove Co.	11
Quincy Pattern Co.	—
Richards-Wilcox Mfg. Co.	56
Rock Island Mfg. Co.	55
Rock Island Register Co.	7
Roesch, Geo. E.	—
Ross-Gould.	50
Rybolt Heater Co.	—
Ryerson & Son, Joseph T.	51
Scheible-Moncrief Heater Co.	6
Schill Bros. Co.	—
Schwab & Sons Co., R. J.	6
Sedgwick Machine Works.	55
Standard Furnace & Supply Co.	—
Standard Ventilator Co.	53
Stanley Rule & Level Plant.	—
Stearns Register Co.	8
St. Louis Technical Institute.	50
Sullivan-Geiger Co.	50
Sykes Co., The.	58
Thomas & Armstrong Co.	50
Towner, F. A. & Vent. Co.	—
Tubular Heat & Vent. Co.	—
Turner Brass Works.	—
Tuttle & Bailey Mfg. Co.	—
Vaughan & Bushnell Mfg. Co.	57
Vedder Pattern Works.	11
Vikins Shear Co.	—
Walworth Run Fdy. Co.	—
Waterloo Register Co.	10
Whitaker-Gleason Co.	—
Whitney Mfg. Co., W. A.	54
Whitney Metal Tool Co.	—
Wise Furnace Co.	8
Z. T. Soot & Gas Consumer Co.	11

CLASSIFIED INDEX

Accessories—Automobiles.

Curtman Mfg. Co., F. L. Maryville, Mo.
International Radiator Co., Chicago, Ill.
Richards-Wilcox Mfg. Co., Aurora, Illinois

Asbestos Sheets.

Manny Heating Supply Co., Chicago, Ill.

Auto Radiators

International Radiator Co., Chicago, Ill.

Ball Ties.

American Steel & Wire Co., Chicago, Ill.
Pittsburgh Steel Co., Pittsburgh, Pa.

Bearings—Damper.

Parker Supply Co., New York, N. Y.

Bicycles.

Johnson's Arms & Cycle Wks., Iver, Fitchburg, Mass.

Bolts and Nuts.

Corbin Screw Corporation, New Britain, Conn.
Ryerson & Son, Jos. T., Chicago, Ill.

Bolts—Stove

Kirk-Latty Mfg. Co., Cleveland, Ohio

Brackets

Ajax Bracket and Outlet Co., Cleveland Heights, Ohio

Brakes—Bicycles.

Corbin Screw Corporation, New Britain, Conn.

Brakes—Cornice.

Bertsch & Co., Cambridge City, Ind.
Dreis & Krump Mfg. Co., Chicago, Ill.
Niagara Machine & Tool Wks., Buffalo, N. Y.

Brass and Copper.

Hussey & Co., C. G., Pittsburgh, Pa.

Builders Hardware.

Bullard & Gormley, Chicago, Ill.

Castings—Malleable

Fanner Mfg. Co., Cleveland, Ohio

Ceilings—Metal.

Burton Co., W. J., Detroit, Mich.
Friedley-Voshardt Co., Chicago, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

Chain—Furnace.

Corbin Screw Corporation, New Britain, Conn.

Chain—sash.

Parker Supply Co., New York, N. Y.

Chaplets

Fanner Mfg. Co., Cleveland, Ohio

Chisels.

Vaughan & Bushnell Mfg. Co., Chicago, Ill.

Cleansers—Hand.

Nickel Plate Stove Polish Co., Chicago, Ill.

Clips—Damper.

Waterloo Register Co., Waterloo, Iowa

Closet Cleaners

Coleman, Allan J., Chicago, Ill.

Coal Chutes

Peerless Foundry Co., Indianapolis, Ind.

Coasters

The Auto-Wheel Coaster Co., Inc., No. Tonawanda, N. Y.

Consumers—Gas and Soot.

Z. T. Soot & Gas Consumer Co., Oshkosh, Wis.

Cores—Radiator.

Curtman Mfg. Co., F. L. Maryville, Mo.
International Radiator Co., Chicago, Ill.

Cornices.

Burton Co., W. J., Detroit, Mich.
Friedley-Voshardt Co., Chicago, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

Cribs and Bins.

Thomas & Armstrong Mfg. Co., London, Ohio

Cut-Offs—Rain Water.

Sullivan-Geiger Co., Indianapolis, Ind.

Dampers—Hot Air.

Howes Co., The S. M., Boston, Mass.

Dumb Waiters.

Sedgwick Machine Works, New York, Y.

Eaves Trough.

Abbott Mfg. Co., Cleveland, Ohio
Berger Bros. Co., Philadelphia, Pa.
Burton Co., The W. J., Detroit, Mich.
Clark-Smith Hardware Co., Peoria, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

Elbows and Shoes—Conductor

Dieckmann Co., Ferdinand, Cincinnati, Ohio
Lupton's Sons Co., David, Philadelphia, Pa.

Elevators—Hand and Power

Kimball Bros. Co., Council Bluffs, Iowa
Sedgwick Machine Works, New York, Y.

Enamel—Iron.

Black Silk Stove Polish Works, Sterling, Ill.
Nickel Plate Stove Polish Co., Chicago, Ill.

Fence Gates.

American Steel & Wire Co., Chicago, Ill.
Pittsburgh Steel Co., Pittsburgh, Pa.

Fencing Wire.

Pittsburgh Steel Co., Pittsburgh, Pa.

Fenders.

Meyers Mfg. Co., Fred J., Hamilton, Ohio

Files.

Disston & Sons, Inc., Henry, Philadelphia, Pa.
Heller Bros. Co., Newark, N. J.
Nicholson File Co., Providence, Rhode Island

Flux—Aluminum

Roesch, Geo. E., Aurora, Ill.

Freezers—Ice Cream.

North Bros. Mfg. Co., Philadelphia, Pa.

Furnace Rings.

Independent Reg. & Mfg. Co., Cleveland, Ohio
Walworth Run Fdy Co., Cleveland, Ohio

Grindstones

Richards-Wilcox Mfg. Co., Aurora, Ill.

Guards—Fire.

Meyers Mfg. Co., Fred J., Hamilton, Ohio

Hammers.

Stanley Rule & Level Plant, New Britain, Conn.
Vaughan & Bushnell Mfg. Co., Chicago, Ill.

Handles—Boiler.

Berger Bros. Co., Philadelphia, Pa.

Hangers—Door

Richards-Wilcox Mfg. Co., Aurora, Ill.

Hangers—Eaves Trough.

Abbott Mfg. Co., Cleveland, Ohio

Heaters—School Room.

Hammond Heating Co., Cincinnati, Ohio
Haynes-Langenberg Mfg. Co., St. Louis, Mo.
Meyer Furnace Co., Peoria, Ill.

Heaters—School Room—Cont.

Monroe Fdy. & Furnace Co., Monroe, Mich.
Peerless Foundry Co., Indianapolis, Ind.
Standard Furnace & Supply Co., Omaha, Neb.

Heaters—Warm Air.

American Furnace Co., St. Louis, Mo.
Cooperative Foundry Co., Rochester, New York

Danville Stove & Mfg. Co., Danville, Pa.

Farris Furnace Co., Springfield, Mass.

Forest City Fdy. & Mfg. Co., Cleveland, Ohio

Haynes-Langenberg Mfg. Co., St. Louis, Mo.

Hall-Neal Furnace Co., Indianapolis, Ind.

Hammond Heating Co., Cincinnati, Ohio

Henry Furnace & Fdy. Co., Cleveland, Ohio

Hess-Snyder Co., Massillon, Ohio

Magee Furnace Co., Boston, Mass.

Mahoning Fdy. Co., Youngstown, Ohio

Majestic Co., Huntington, Ind.

Manny Heating Supply Co., Chicago, Ill.

May-Fiebeger Furnace Co., Newark, Ohio

Meyer Furnace Co., Peoria, Ill.

Modern Way Furnace Co., Fort Wayne, Ind.

Monroe Fdy. & Furnace Co., Monroe, Mich.

Peerless Foundry Co., Indianapolis, Ind.

Premier Warm Air Heater Co., Dowagiac, Mich.

Rxbolt Heater Co., Ashland, Ohio

Scheible-Moncrief Heater Co., Cleveland, Ohio

Schill Bros. Co., Crestline, Ohio

Schwab & Sons Co., R. J., Milwaukee, Wis.

Standard Furnace & Supply Co., Omaha, Neb.

Tubular Heating & Ventilating Co., Philadelphia, Pa.

XXth Century Heating & Ventilating Co., Akron, Ohio

Waterloo Register Co., Waterloo, Iowa

Wise Furnace Co., Akron, Ohio

Holders—Flag Pole

Enterprise Mfg. Co. of Pa., Philadelphia, Pa.

Horse Shoes.

American Steel & Wire Co., Chicago, Ill.

Humidifiers

Haynes, Kansas City, Mo.

Indoor Closet.

Independent Reg. & Mfg. Co., Cleveland, Ohio

Jobbers—Hardware.

Bullard & Gormley Co., Chicago, Ill.
Clark-Smith Hardware Co., Peoria, Ill.

Kitchen Utensils

Lalanc & Grosjean Mfg. Co., Chicago, Ill.

Lath—Expanded Metal

Milwaukee Corrugating Co., Milwaukee, Wis.

Machines—Crimping.

Bertsch & Co., Cambridge City, Ind.
Niagara Machine & Tool Works, Buffalo, N. Y.

Machinery—Culvert

Bertsch & Co., Cambridge City, Ind.

Machines—Razor Blades

Hyfield Mfg. Co., New York, N. Y.

Machines—Stove Pipe.

Hemp & Co., St. Louis, Mo.

Machines—Tinsmiths'.

Bertsch & Co., Cambridge City, Ind.
Dreis & Krump Mfg. Co., Chicago, Ill.
Hemp & Co., St. Louis, Mo.
Marshalltown Mfg. Co., Marshalltown, Iowa
Niagara Machine & Tool Works, Buffalo, N. Y.
Whitney Mfg. Co., W. A., Rockford, Ill.

Mailing Lists.

Ross-Gould, St. Louis, Mo.

Meat Smokers

Chatsworth Mfg. Co., Chatsworth, Ill.

Meat and Food Choppers

Enterprise Mfg. Co. of Pa., Philadelphia, Pa.

Metals—Perforated.

Harrington & King Perforating Co., Chicago, Ill.

Miter.

Friedley-Voshardt Co., Chicago, Ill.

Motorcycles.

Johnson's Arms & Cycle Wks., Iver, Fitchburg, Mass.

Nails—Slatting.

Hussey & Co., C. G., Pittsburgh, Pa.

Nails—Wire.

American Steel & Wire Co., Chicago, Ill.

Pittsburgh Steel Co., Pittsburgh, Pa.

Nut Crackers

Enterprise Mfg. Co. of Pa., Philadelphia, Pa.

Ornaments—Sheet Metal.

Friedley-Voshardt Co., Chicago, Ill.

Geroch Bros. Mfg. Co., St. Louis, Mo.

Parts—Auto.

International Radiator Co., Chicago, Ill.

Parts—Bicycles

Corbin Screw Corp., New Britain, Conn.

Parts—Tools.

Corbin Screw Corp., New Britain, Conn.

Patterns—Stove

Cleveland Castings Pattern Co., Cleveland, Ohio

Cope-Swift Co., Inc., Detroit, Mich.

Quincy Pattern Co., Quincy, Ill.

Vedder Pattern Works, Troy, N. Y.

Pipe and Fittings—Furnace.

Henry Furnace & Fdy. Co., Cleveland, Ohio

Howes Co., S. M., Boston, Mass.

Lamneck Co., W. E., Columbus, Ohio

Manny Heating Supply Co., Chicago, Indiana

Meyer & Bro. Co., F., Peoria, Ill.

Michigan Safety Furnace Pipe Co., Detroit, Mich.

Standard Furnace & Supply Co., Omaha, Neb.

Pipe and Fittings—Stove

Hemp & Co., St. Louis, Mo.

Howes Co., S. M., Boston, Mass.

Meyer & Bro. Co., F., Peoria, Ill.

Sullivan-Geiger Co., Indianapolis, Ind.

Pipe—Conductor

Berger Bros. Co., Philadelphia, Pa.

Burton Co., W. J., Detroit, Mich.

Clark-Smith Hdw. Co., Peoria, Ill.

Dieckmann Co., Ferdinand, Cincinnati, Ohio

Friedley-Voshardt Co., Chicago, Ill.

Hussey & Co., C. G., Pittsburgh, Pa.

Milwaukee Corrugating Co., Milwaukee, Wis.

Plumbs and Levels

Stanley Rule & Level Plant, New Britain, Conn.

Polish—Metal and Stove Black Silk Stove Polish Co., Sterling, Ill. Nickel Plate Stove Polish Co., Chicago, Ill.	Rolls—Forming Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Wks., Buffalo, N. Y.	Soldering—Furnaces Ashton Mfg. Co., Newark, N. J. Berns Co. Otto, Newark, N. J. Burgess Soldering Furnace Co., Columbus, Ohio Clayton & Lambert Mfg. Co., Detroit, Mich. Diener Mfg. Co., G. W., Chicago, Ill.	Tiles and Shingles—Metal American Zinc Products Co., Greenacastle, Ind. Burton Co., W. J., Detroit, Mich. Cortright Metal Roofing Co., Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis. Thomas & Armstrong Mfg. Co., London, Ohio
Posts—Steel Fence American Steel & Wire Co., Chicago, Ill.	Roof—Flashing Hessler Co., H. E., Syracuse, N. Y.	Double Blast Mfg. Co., North Chicago, Ill.	Tin—Perforated Harrington & King Perforating Co., Chicago, Ill.
Presses—Lard Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	Roofing—Iron and Steel American Sheet & Tin Plate Co., Pittsburgh, Pa. Brier Hill Steel Co., Youngstown, Ohio	Hones, Inc., Chas. A., Baldwin, Long Island, N. Y.	Tinplate American Sheet & Tin Plate Co., Pittsburgh, Pa.
Punches Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Wks., Buffalo, N. Y. Whitney Mfg. Co., W. A., Rockford, Ill.	Roofing—Zinc American Zinc Products Co., Greencastle, Ind.	Quick Meal Stove Co., St. Louis, Mo. Turner Brass Works, Sycamore, Ill.	Tools—Auto Repair Curfman Mfg. Co., F. L., Chicago, Ill. International Radiator Co., Maryville, Mo.
Punches—Combination Bench and Hand Parker Supply Co., New York, N. Y.	Rubbish Burners Hart & Cooley Co., New Britain, Conn.	Soldering Irons Lupton's Sons Co., David, Philadelphia, Pa.	Tools—Carpenter Diaston & Sons, Inc., Henry, Philadelphia, Pa.
Punches—Hand Parker Supply Co., New York, N. Y.	Rules Lufkin Rule Co., Saginaw, Mich.	Soldering Paste Towner, F. A., Muskegon, Mich.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Quadrants—Damper Parker Supply Co., New York, N. Y.	Sanitary Specialties Coleman, Allan J., Chicago, Ill.	Specialties—Hardware Bemis & Call Hdw. & Tool Co., Springfield, Mass.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Ranges—Combination Gas & Coal Quick Meal Stove Co., St. Louis, Mo.	Sash Balances Caldwell Mfg. Co., Rochester, N. Y.	Speedometers—Bicycle Corbin Screw Corporation, New Britain, Conn.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rasps Diaston & Sons, Inc., Henry, Philadelphia, Pa. Heller Bros., Newark, N. J. Nicholson File Co., Providence, Rhode Island	Saws Diaston & Sons, Inc., Henry, Philadelphia, Pa.	Stock Tanks Thomas & Armstrong Mfg. Co., London, Ohio	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Refrigerators—Iceless Sedgwick Machine Works, New York, N. Y.	Schools—Heating and Ventilating Engineering Cleveland Engineering Institute Cleveland, Ohio	Stock Waterers Rock Island Mfg. Co., Rock Island, Ill.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Register Shields Hall-Neal Furnace Co., Indianapolis, Ind.	Schools—Sheet Metal Pattern Drafting St. Louis Technical Institute, St. Louis, Mo.	Stoves—Camp Quick Meal Stove Co., St. Louis, Mo.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Registers—Cash Nat'l Cash Reg. Co., Rochester, N. Y.	Screens—Perforated Metal Harrington & King Perforating Co., Chicago, Ill.	Stoves—Gasoline and Kerosene Detroit Vapor Stove Co., Detroit, Mich.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Registers—Warm Air Hart & Cooley Co., New Britain, Conn. Henry Furnace & Fdy. Co., Cleveland, Ohio Independent Reg. & Mfg. Co., Cleveland, Ohio Majestic Co., Huntington, Ind. Manny Heating Supply Co., Chicago, Indiana Marsh Lumber Co., Dover, Ohio Rock Island Register Co., Rock Island, Ill. Standard Furnace & Supply Co., Omaha, Neb. Stearns Register Co., Detroit, Mich. Tuttle & Bailey Mfg. Co., Chicago, Ill. Walworth Run Fdy. Co., Cleveland, Ohio Waterloo Register Co., Waterloo, Iowa	Screws—Sheet Metal Parker Supply Co., New York, N. Y.	Stoves—Ranges Danville Stove & Mfg. Co., Danville, Pa. Quick Meal Stove Co., St. Louis, Mo. Schill Bros. Co., Crestline, Ohio	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Regulators—Damper Parker Supply Co., New York, N. Y.	Sheets—Black and Galvanized American Sheet & Tin Plate Co., Pittsburgh, Pa.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Repairs—Stove & Furnace Central Stove & Furnace Repair Co., Chicago, Ill. Hessler Co., H. E., Syracuse, N. Y. Nat'l Stove Repair Co., Cincinnati, Ohio Northwestern Stove Repair Co., Chicago, Ill.	Sheets—Blue Annealed Brier Hill Steel Co., Youngstown, Ohio	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Revolvers Johnson's Arms & Cycle Wks., Fitchburg, Mass.	Sheets—Planished Sykes Co., The, Chicago, Ill.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Shotguns Johnson's Arms & Cycle Wks., Fitchburg, Mass.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Sifters—Ash Diener Mfg. Co., G. W., Chicago, Ill.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Sifters—Flour Meyers Mfg. Co., Fred J., Hamilton, Ohio	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Skylights Burton Co., W. J., Detroit, Mich.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Sleds The Auto-Wheel Coaster Co., Inc., No. Tonawanda, N. Y.	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Smoke Pipe—Cast Iron Manny Heating Supply Co., Chicago, Indiana	Stoves—Stove Pipe Reducer Sullivan-Geiger Co., Indianapolis, Ind.	Tools—Tinmiths' Bertsch & Co., Cambridge City, Ind.

WANTS AND SALES

For paid yearly subscribers, **AMERICAN ARTISAN AND HARDWARE RECORD** will insert under this head advertisements of not more than fifty words **WITHOUT CHARGE**. Employers wishing to secure employes, parties desiring to purchase or sell business, secure partners, or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

BUSINESS CHANCES

For Sale—Furnace. Hart and Crouse Company, makers. It has 29" fire pot, 63" casing and its heating capacity is 70,000 cubic feet. Suitable for church or hall. Hogan and Company, 3163 Archer Avenue, Telephone McKinley 3071, Chicago, Illinois. 24-3t

Wanted to Buy—Two good mechanics wish to hear from someone who has a tin shop for sale on small sum down and balance as it is earned. Central states only. After March 1st. Address H. J. Lang, 315 So. 31st Street, Omaha, Nebraska. 22-4t

For Sale—Only exclusive radiator, repairing and recoring shop in Norfolk, Nebraska. Population ten thousand. New \$265 automatic air compressor. City gas and lights. Reason for selling, eyes failing. Address Norfolk Auto Tinner, 723 Norfolk Avenue, Norfolk, Nebraska. 25-3t

For Sale—160 acres cut-over timber land 7½ miles southeast of Jonesboro, Arkansas, 2½ miles from Frisco and 2½ miles to Iron Mountain Railroad. Hard surfaced road within two miles of land. Would trade for stock of hardware. Address L. F. S., care of Perryville Hardware Company, Perryville, Missouri. 24-3t

For Sale—Patent right for Sanitary cold air register, grill and ventilator. Something new. Easily and cheaply made. Just the thing to use in connection with pipeless furnaces as well as multipipe installations. Neat and strong. It is worth while for you to investigate. Address A. Henry, Heating Engineer, Nebraska City, Nebraska. 25-3t

For Sale—A well established hardware business. Stock \$20,000. Unusually attractive for live and experienced hardware man. Located in a most rapidly growing city of northern Illinois. Big outlet for builders' hardware, tools, paints and factory supplies. Owner has other business ventures requiring more personal attention. No traders or sacrifice sale considered. Kindly address B-63, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-3t

For Sale—Plumbing and tin shop, located in rear end of hardware store. Will sell for \$1,000 cash, including stock and tools; also touring car. This town is located in Iowa, population about 1,300. Good hotels, schools and churches. Plenty of work and a rich territory to work on. A good opportunity for a young man who wishes to start in business. Am leaving the State. Address B-71, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-4t

Business Chance—We offer the following surplus stock for sale: Allith-Prouty-Sharon or Richards-Wilcox Square barn door track 18; brackets 16; one ton slightly rusted No. 5 market wire, 4c lb.; 500 lbs. light seamless copper tubing, ¼ to ¾", 48c lb.; one ton 50-50 solder, 24c; one bbl. olive drab paint, \$1.25; 50 rolls 30" galvanized poultry netting, \$2.50 roll; 5 kegs 8d steel cut nails, \$4.50 case; 10 30x3½, ten 30x3¼ Auburn tires at \$13.75; eight 30x3 Auburn tires at \$9.00, and four 30x3 Archer tires at \$6.75. VanDervoort Hardware Company, Lansing, Michigan. 24-3t

BUSINESS CHANCES

For Sale—One No. 24 Giblin hot water heating boiler. Good as new except grates. Capacity 1,500 feet. Will sell at a bargain. Write at once to J. Oscar Smith, Moberly, Missouri. 25-3t

For Sale—9-3 column radiators, hot water; one No. 230 Ideal Standard boiler. Has been used but very little. All in good condition. Reasonable price. Oscar Peterson, Lincoln, Kansas. 22-3t

For Sale—Forty acres of improved land with some timber, one mile from city of Wausau. Will sell for \$1,600. Have also store fixtures for sale. Address T. Oelke, 621 Scott Street, Wausau, Wisconsin. 25-3t

Lightning Rods—Big profits and quick sales to live dealers selling "DIDDIE'S UNIVERSAL RODS." Our copper tests 99.96% pure. Prices are right—get our agency. L. F. Diddle Company, Marshfield, Wisconsin. 18-ufn

Wanted to Buy—Small hardware store in or near Chicago. When replying please state particulars. Address B-56, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 22-ufn

For Sale—Tin shop in Northeastern Iowa. Established twelve years. At invoice price. Full set of tinner's tools brake. Population is 3,500. Good schools and churches. Plenty of work. Only one other shop in town. Address B-56, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 22-4t

For Sale—Tin shop in north-central Iowa. Full set of tools with eight foot brake. Will also sell building or rent it for a reasonable price. Full glass front. Established five years. Population between 800 and 900. Good school and churches. Only shop in town. Fine country. Plenty of work. Address B-63, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

HELP WANTED

Wanted—An all around man to commence work March 1st. State wages and give references in first letter. Leonard Hardware Company, Blanchardville, Wisconsin. 25-3t

Wanted—Tinner. Steady employment for one to do general run of job work. \$9.00 per day. M. S. Warren, Port Arthur, Texas. 22-4t

Wanted—A tinner and furnace man. One who is experienced to clerk in hardware store. State wages and particulars in first letter. Address Joe J. Voegell, Monticello, Wisconsin. 25-3t

Wanted—A first-class plumber to take full charge of shop. Plenty of business. Located in north central Iowa. Address B-67, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Wanted—Three first-class tinner or men who have had experience on ventilating work. Only first-class men need apply. Union shop. One dollar per hour. Write or telegraph before coming. Foster Metal Products Co., 217 South Fourth Street, Springfield, Illinois. 22-4t

Wanted—Department foreman capable of handling twelve employees in large Milwaukee sheet metal shop. Good job for the right man. Address B-73, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Wanted—Foreman to take charge of shop doing stock yard sheet metal work. One who can lay out work and handle men. Address B-64, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Wanted—A tinner and furnace man in small town. County seat, southern Wisconsin. State wages and particulars in first letter. Please address B-61, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-3t

Wanted by January 1st—A first-class sheet metal worker who is desirous of going into partnership. Must know how to estimate jobs. We have a good field here for a live man. If interested please write to Mr. J. F. Leith, West Side Sheet Metal Works, 6700 Madison Avenue, Cleveland, Ohio. 25-3t

HELP WANTED

Wanted—An experienced bookkeeper for general hardware store. State age, number of years experience, salary wanted, in first letter. Address J. Ed. Guenther, 524 Allen Street, Owensboro, Kentucky. 22-4t

Wanted at Once—Manager for furnace department. Must be thoroughly acquainted with sales of hot air furnaces and slightly acquainted with their production. Good compensation and splendid opportunity for future. Engineering Agency, Incorporated, 53 West Jackson Boulevard, Chicago, Illinois. 25-1t

SITUATION WANTED

Situation Wanted—By good mechanic, tinner and furnace man. Can lay out work and figure jobs. Small town preferred. State wages in first letter. Address Tinner, 315 South 31st Street, Omaha, Nebraska. 25-3t

Situation Wanted—as furnace salesman. Have had 15 years practical experience in the heating line. Address B-65, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Situation Wanted—As clerk or manager of branch store. Have had 25 years' experience. Also understand the furniture business; have done tinning and plumbing. South or west preferred. State salary. A. W. Gikerson, Burke, South Dakota. 23-3t

Situation Wanted—By a first-class sheet metal worker. Must be steady. Can do all kinds of sheet metal and furnace work. Am sober and married. Address B-67, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Situation Wanted—By all around tinner and furnace man. Have had ten years' experience. Can handle any kind of furnace work. Kindly address B-60, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-3t

Situation Wanted—By an all around tinner with a reliable firm. Have had 25 years' experience. Will be open for a job about the middle part of January. Address B-62, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-3t

Situation Wanted—As superintendent or working foreman in sheet metal shop. Have had 25 years' experience. Would like to connect with some northern Illinois concern. Address B-74, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Situation Wanted—By a first-class sheet metal worker. Can do all kinds of sheet metal and furnace work. Am sober and married. Nothing but a steady job. Address B-70, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Situation Wanted—By a first-class plumber and fitter. Can also do tinning and do estimating on plumbing and heating. Have had 17 years' experience. Please state particulars. Address B-66, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Situation Wanted—By combination tinner and plumber. Have experience in all lines of heating; have followed the trade all my life. Am 25 years old and married. Would prefer town under 10,000 population, in Southwestern states. Please state wages and living conditions in first letter. S. K. Fesler, P. O. Box 129, Palestine, Texas. 22-4t

Situation Wanted as city salesman either with manufacturer or heating establishment. Have had sales and practical experience in warm air furnace business. Might consider investment in right proposition. Please address B-58, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-3t

Situation Wanted—By combination tinner and plumber. Have had 30 years' experience. Can do anything that comes up in a shop. Am 46 years old. Must be steady job. State wages in first letter. Address B-69, Care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t